NATIONAL INSTITUTE OF SIDDHA
Chennai – 47

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI - 32

PRE CLINICAL AND CLINICAL STUDY ON

VARATCHI KARAPPAN

(DISSERTATION SUBJECT)

For the partial fulfillment of the

requirements to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH III – DEPARTMENT OF SIRAPPU MARUTHUVAM

2010-2013

CERTIFICATE

Certified that I have gone through the dissertation submitted by **Dr.K.KAVIARASI (Register No: 32102201),** a student of final M.D(S), Branch-III, Department of **Sirappu Maruthuvam**, **National Institute of Siddha**, Tambaram Sanatorium, Chennai-47, and the dissertation work has been carried out by the individual only. This dissertation does not represent or reproduce the dissertation submitted and approved earlier.

Place: Chennai-47
Date:

Prof.Dr.K.MANICKAVASAKAM,M.D(s).,
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INTRODUCTION

"Health is Wealth", the most precious one for human being is being free from the disease. Health is defined as 'a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease and infirmity'. In order to maintain the health and come out from the disease, we need various type of treatment which includes Traditional and Modern systems of medicine.

Siddha system of medicine was established by Siddhars. Siddha system is serving the mankind to all of its physical, mental and spiritual components of human being. The main advantage of Siddha system is to remove the root cause of the disease. They classified the diseases on the basis of derangement of three humors Vaatham, Pitham, Kabam. Any derangement of the three humours will result in the disease. Food habits and life style modifications play an important role in developing the disease by altering the three humours.

Siddhars have stated about four thousand four hundred and fourty eight diseases (4448). The disease Karappan is one among them. The symptoms of Varatchi Karappan may be correlated to Eczema in Modern medicine.

Every substance in the world is said to be formed from Panchabootham. Skin is one of the components of the earth. Any deviation in the components of the earth will cause disease in the skin.

There is no cure for eczema, but eczema can be controlled with regular medical care and a good treatment plan. Effective eczema management requires a combination of prevention and treatment. In addition to preventing eczema flare-ups by minimizing any known triggers, treatment is also an important part of eczema management. It is not a contagious disease. It is generally not a serious condition, but there is potential for complications, such as a secondary bacterial or fungal infection of the eczema rash. Early diagnosis and treatment can reduce the risk for complications.

Eczematous diseases are very common with an estimated prevalence of more than 10% in the general population. According to statistics 15-25% of all dermatological patients suffer from eczema.

The incidence of this disease is considerably increasing now-a-days which is indicated by the increase in the number of patients reporting at Ayothidoss Pandithar Hospital.

For the age group 6 to 7 years, the prevalence of current eczema ranged from 0.9% in India to 22.5% in Ecuador, with new data showing high values in Asia and Latin America. The prevalence of eczema is on the increase and currently affects 12-15% of all school-age children and 2-10% of adults. (*Ref:www.jacionline.org/article/S0091-6749(09)01535-8/abstract)*

Siddha medicines are very effective in the treatment of dermatological ailments. That's why the author selects the skin disease 'Varatchi Karappan' for the Dissertation work. Varatchi Karappan is one of the type of Karappan which was explained in the text 'Yugi Vaidhya Chinthamani-800'.It is also mentioned in the text 'Siddha Maruthuvam Sirappu' Many herbal and herbo-mineral formulations have been indicated for skin diseases. Most of them have been proved effective clinically. So the author selects the herbal formulations for the dissertation work.

Kukkilaathi chooranam (internal) and Karappan Mel PoosuThylam (external) have been chosen as study drugs as they are indicated for Karappan in texts.

Apart from various internal and external medicines, Siddhars have dealt with Yogam. It is effective in sleeplessness by relaxing the mind and also the body.

This study has therefore been designed to evaluate the therapeutic efficacy of "Kukkilaathi Chooranam" (Internal medicine), "Karappan Mel PoosuThylam" (External medicine) and Yogam in the treatment of Varatchi Karappan.

AIM AND OBJECTIVES

Primary Objective:

To evaluate the therapeutic efficacy of "Kukkilaathi chooranam" (Internal medicine) and "Karappan Mel Poosu Thylam" (External medicine) for the disease Varatchi Karappan (Eczema).

Secondary Objectives:

1. To study the effectiveness of Yogam along with trial drugs in reducing the symptoms in Varatchi Karappan (Eczema).
2. To study the effectiveness of Yogam along with medicine in Varatchi Karappan patients.
3. To evaluate the Siddha diagnostic methods such as Envagai thervu, Neerkkuri and Neikkuri etc., in Varatchi Karappan patients.
4. To do a detailed collection of Literatures of trial drugs and the disease "Varatchi Karappan" and review the ideas mentioned in ancient Siddha literatures related to the disease.
5. To analyse the trial drug by biochemical methods.
6. To do toxicological studies by animal studies to ascertain the safety of the trial drugs.

கரப்பான்- KARAPPAN

நோய் இயல்- DEFINITION

தோலில் திமிர், குரு, புண், தடிப்பு ஆகிய குறி குணங்களை உடைய படைகளை உண்டாக்கி அவ்விடங்களில் வீக்கம், கொப்புளங்கள் கண்டு அல்லது செதில் போன்று தோல் சுரசுரப்பாகி தோலின் இயற்கை நிறத்தை வேறுபடுத்தி சிலவேளை வெடிப்பு உண்டாக்கி நீர்கசிதல் ஆகிய குறிகுணங்களை காட்டும் தோற்பிணிகளை கரப்பான் அல்லது கரப்பன் என்று கூறுவர். இதில் தினவும் சொரிவும் இருத்தலும், இல்லாதிருத்தலும் உண்டு.

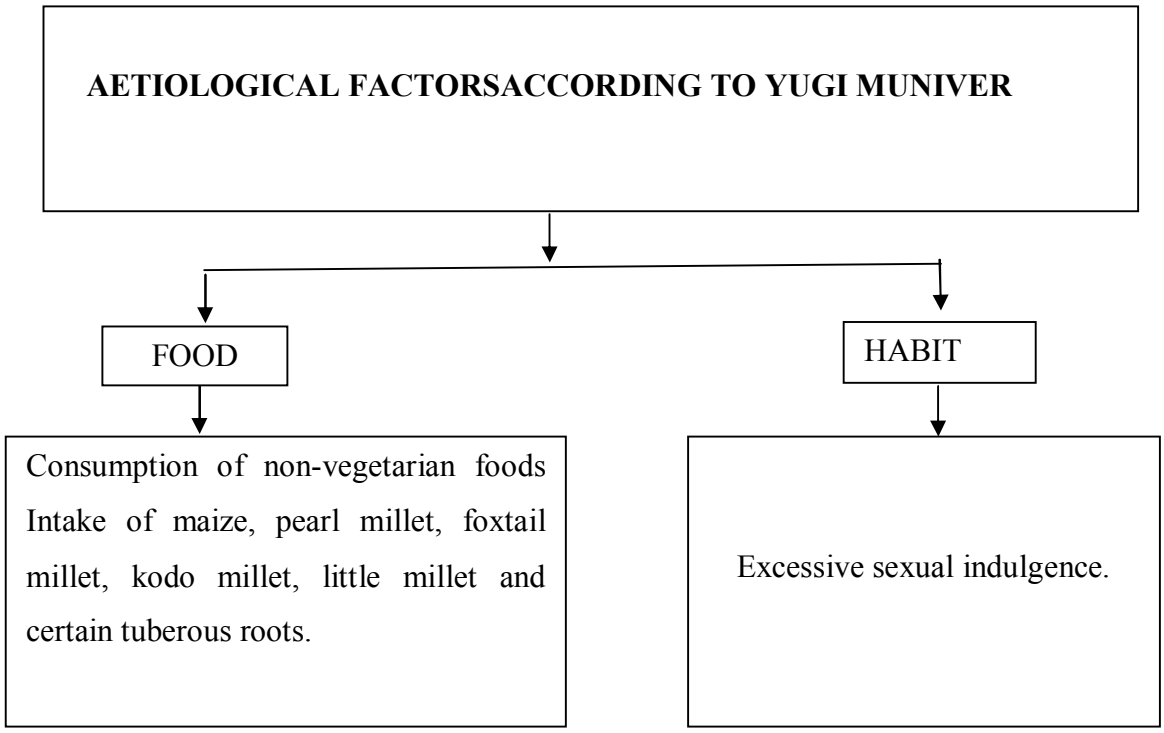
It is characterized by itching, papules, vesicles formation, scaling, hardening of skin with change in colour sometimes manifesting with cracking of lesion exudating watery fluid.

நோய்க்காரணம் - AETIOLOGY OF DISEASES

"மிகினும் குறையினும் நோய் செய்யும் நூலோர்
வளிமுதலாய் யெண்ணிய மூன்று".

- *திருவள்ளுவர்*

According to Thiruvalluvar, a disease is produced due to increase or decrease of three thodam such as Vaatham, Pitham and Kapham.



According To Yugi Vaidhya Chinthamani:

"ஏழான கரப்பானின் உற்பத்தி கேளாய்
ஏற்ற மாமிசங்கள் புசிக்கை யாலும்
கூழான கம்புதினை வரகு சாமைக்
கோடிதான கிழங்கு வகையருந் தலாலும்
பூழான பெண்மாயை தன்னிற் சிக்கும்
பாங்கான விரகத்தான் முயற்சி யாலும்"

According To Guru Naadi Nool

"வயல்தனிலே பூநாக மண்ணைத் தானே
வருந்தியது புத்துப்போல வத்தை யாகும்
பயல் மொழியீர் தேகத்தில் கிருமிதானே
பரந்துருகி குட்டம் போல் புள்ளிகாணும்
மயலதுவுங் கிருமியுந்தான் நடந்துபுக்கில்
மேனியதுசரசரென வெடித்துப் புண்ணாம்
கயல்பெருகும் குழல்மடவீர் சொல்லக் கேளிர்
கரகரத்துச் சொறிபெருகுங் கரபான் தானே"

"சங்கையில் விஷகரப்பான் வருமாறேது
சாரமுடன் கிருமிவிழுந் தன்மையேது"
உட்டிணமே அதிகம்வரு மிந்திரிய போகத்தா
லுனுருகி யத்திலே வேவு கொண்டு
நட்டணமாய் வெந்ததொரு மச்சை தன்னில்
நாட்டமிட்டே கிருமியது யணுகும் போது
மட்டுடனே கிருமியெல்லாம் பறந்தங்கேறி
வகையுடனே மாங்கிஷத்தைத் துளைத்து மேவும்
திட்டமுடன் விடகரப்பான் பறந்துமேலே
தினவுடனே பரபரத்துச் சொறி யுண்டாமே"

- *குருநாடி நூல்*

Relevance of Guru Naadi Nool:

- Karappan occurs due to infestation with parasites and worms and it is symptomised by itching, cracking and ulceration of skin.
- Vida Karappan is a type of Karappan and is produced due to destruction of vital organs of the body by the infection, excessive sexual indulgence which is symptomised by intensive itching.

In the text "Vaithya Chintamani Karappan Roga Nidhanam"

Karappan is produced due to:

- Consumption of offending food substances.
- Sexual indulgence with elderly women.
- Cutting of fruit bearing trees.
- Psychosomatic factors.

"வாத பித்தங் கபமிவை மூன்றுவந்
தேதுவாய் வெயிலான் மடியாலிகற்
கோதையார் மயலார் வெயர் வாற்குளிர்
பேதநீரிவை மாலுளபேசு கேளின்
வேதக் காற்றிதி நற்பனை வெல்லத்தால்
பாகமின்கள் வான்மேதிப் பானெய்யில்
தாகமாலின் வடுக்கனி சார்தலால்
மோகவாழை வழுதலை முள்ளிக்காய்
காயும் பல்லிடத் தாற்சுரத் தாற்கனல்
ஏயும் வன்டெலி யால்வரு மேதுவென்
ருயு நல்லறி வான ரருளினார்
மாய மான கரப்பான் வகைகளே"

- *பரராச சேகர கிரந்தி நிதானம்*

According to Pararaasa Sekara Kirandhi Nidhanam:

- Drinking of contaminated water.
- Eating of banana , cucumber, brinjal, fish.
- Poisons of rats.

Food items inducing Karappan as mentioned in Siddha literature are"-

"பெருகுஞ் சோளமிறுங்கும் பெரும்கம்பு
வரகுகாருடன் வாழையின் காயொடு
உரைகொள் பாகற் கெளிற்றுமீன் உண்டிடில்
விரிவதாயக் கரப்பானுமிகுந்ததே"

- *சித்தமருத்துவம் சிறப்பு*

சோளம் Maize

"சோளமெனப் பேர்படைத்தசோறுகளினாலுடலில்
மீளச் சொறிசிரங்குவிர்த்திதாம் - நாளுங்
கரப்பானும் உண்டாம் கனமருந்தும் பாழாம்
பரப்பரனையகணமானதே!பார்"

- *அகத்தியர் குணவாகடம்*

கம்பு - Pearl millet

"கம்புகுளிர்ச்சி யெனகாசினியிற் சொல்லுவர் காண்
பம்புசொறி சிரங்கைப் பாலிக்கும் - வெம்பும்"

- *அகத்தியர் குணவாகடம்*

வரகு - Kodo millet

"எறிகப தோடேபல நோயெய்தும் வறட்சி
சொறிசிரங்கு பித்தந் தொடரும் - நிறையுங்
கரகமெனப் பூரித்தகச்சு முலைமாதே!
வரகரிச் சோற்றால் வழுத்து"

- *அகத்தியர் குணவாகடம்*

Consumption of maize, pearl millet, kodo millet, unripened banana, bitter guard will lead to Karappan disease.

CLASSIFICATION:

As per **'Yugi Vaidhya Chindamani - 800'** the types of Karappan are **seven**:

1. Vatha karappan
2. Kanda karappan
3. **Varatchi karappan**
4. Thimirvatha karappan
5. Kabala karappan
6. Azhal karappan
7. Iyya karappan.

In **"Pathinen Siddhar Balavagada Thirattu",** Karappan is classified into18 types:

1. Vali karappan,
2. Azhal karappan,
3. Iyya karappan,
4. Ari karappan,
5. Oothu karappan,
6. Soolai karappan,
7. Vedi karappan,
8. Mandai karappan,
9. Pori karappan,
10. Sattai karappan,
11. Odukarappan,

12. Karun karappan,
13. Sen karappan,
14. Kolli karappan,
15. Thoda karappan,
16. Vaalai karappan**,**
17. **Varal karappan,**
18. Veengku karappan.

In the text **'AthmaRakshamirtham'** the classification of Karappan is of 20 types:

1. Vali karappan,
2. Azhal karappan,
3. Iyya karappan,
4. Karun karappan,
5. Sen karappan,
6. Mandai karappan,
7. Ari karappan,
8. Pori karappan,
9. Kiranthisoolai karappan,
10. Vaalai karappan,
11. Othu karappan,
12. Sevvappu karappan,
13. Kolli karappan,
14. Kadi karappan,
15. Veengu karappan,
16. Uthir karappan,
17. Sattai karappan,
18. Vedi karappan,
19. Singamuga karappan,
20. Eri karappan

CLINICAL FEATURES OF KARAPPAN

"எண்பதுகரப்பான் தன்னையியம்பிடுமாறுகேளிர்
நண்பிடும் வாதம் பித்தம் நலங்கெட்டுத் தானம் வீங்கும்
புண்படுங் கரங்கள் சந்துபுலைந்துடல் கடுத்துநோகும்
வன்புடன் வெடித்துச் சூலைவருவதுரணமீதென்னே"

"உளைஞ்சு மேலயிதஎன் சீதங் காணும்
உஷ்ணமாய் மூத்திரந் தாலுருங்கி விழும்
அளைஞ்சு மேயங்க மெல்லாஞ் சொரியுண்டாகும்
அழலாக வெதும்பலாக் கைகா லோயும்
புளைஞ்சு மேலிங்கத்திற் யுன்போலி ருத்திப்
பொடிபொடியாய் சுண்ணாம்புக்கற் போல்விழும்"

- *அகத்தியர் இரண நூல்*

In Yugi Vaithiya Chinthamani:

Varatchi Karappan is symptomised by swelling of face, discrete itching all over body, excessive fatigue, debrided wounds with foul smell.

"கண்டமாய் முகவீங்குங் குற்றலுண்டாம்
குனமாக உடம்பெங்கு மிகவே ஊறும்
குண்டமாயு டம்பதைத்துச் சொரித்த லுண்டாம்
சோருமே யெந்நேர மயக்க த்தாலே
வண்ட கந்தானி ல்லாம லுடம்பா
பாடாய் ப்பகற்றி மறுகும் வார்த்தை
பிண்டமாய்க் கிடந்துருண்டு புலாலே நாறும்
பெருவறட்சிக் கரப்பானி ன்றன் பேரிதாமே"

- *யூகிவைத்தியசிந்தாமணி*

According to Agathiar Rana Nool - Facts about Karappan:

- Classified into 80 types
- Produced due to derangement of Uyirthathu, Vaatham, Pitham and Kapham
- Symptomised by
    - Itching
    - Cracking
    - Oozing
    - Pus exudation
    - Sloughing
    - Oliguria
    - Fatigue

TEXTUAL REFERENCES - VARATCHI KARAPPAN

In Agathiyar 2000

- Distributed in leg, scalp, ear, and nose.
- Symptomised by itching, vesicles formed due to scratching.

"காலிதலையுடம் பெங்கும் கனக்கவே சிறுசிறங்காய்
சேலதுகடி துலத்தித் தினவுடன் சொறிவதாகிக்
தாலவே காதுநாசி மிடறுதான் தானில்
தால்தரும் மடந்தைமாதே,வறட்சிசேர் கரப்பானாமே"

- *அகத்தியர் 2000*

In Pathinen Siddhar Balavagada Thirattu

Varatchi Karappan is characterized by formation of infectious vesicles distributed from scalp to foot.

"உச்சி முதலுள்வங்காலுற்றளவி வெள்ளிடமும்
நச்சுச் சிறுசிரங்கு நன்னியே - நிச்சல்
கடிந்து வரச் சிக்கரப்பான் காண்"

- *பதினெண் சித்தர் பாலவாகடத்திரட்டு*

In Aathmaratcha Amirtham Varal Karappan:

- Distributed from scalp to foot.
- Symptomised by itching, vesicle formation, loss of sleep.

Curable and Incurable types of Karappan mentioned in Yugi Vaithiya Chinthamani 800 as below:

"மூர்க்கமாம சாத்தித்தை மொழியக் கேளாய்
மோழிகின்றவாத கரப்பான்றன்னோடு
ஊர்க்கமாம் பித்தகரப்பானு மாகும்
உயர்கின்றவரட்சியாங் கபாலக்கரப்பான்
தார்க்கமாமிதுநாலுஞ்சாத்தியமாகும்
தளுக்கானதிமிர்வாதக் கரப்பான்கண்டம்
தீர்க்கமாஞ் சேட்பகரப்பான்றன்னோடு
செவ்வியதோரிது மூன்றுமசாத்தியாமே"

Curable types of Karappan are:

1. Vatha karappan
2. Pitha karappan
3. Varatchi karappan
4. Kabala karappan

Incurable types of Karappan are:

1. Kanda karappan
2. Thimirvatha karappan
3. Iyya karappan

நாடிநடை:

1. தானமுள்ளசேத்துமந்தானிளகில் .....
   ..... கரப்பான் விரணதோடம்
2. சிறப்பானவாதத்தில் உட்ணந்தானேசேர்ந்திடுகில்
   ..... மதகரிநீர் கரப்பான்

\- குருநாடி

NAADI PATTERNS IN KARAPPAN :

- Kabam
- Vatham + Ushnam

DIAGNOSIS OF KARAPPAN

Diagnosis of Karappan in Siddha system is mainly based on **EnvagaiThervu (Eight types of examination)** and also on other factors like

- UyirThaathukkal
- UdalThaathukkal
- Gnanenthiriyam
- Kanmenthiriyam

UYIR THATHUKKAL

Vaatham

- In Karappan commonly affected types of Vaatham are Abanan, Viyaanan, Samaanan and Devathathan.
- Derangement of Viyanan leads to itching, dryness of skin, thickness.
- Involvement of Samanan leads to imbalance of functions of other Vaayukkal.
- Derangement of Devathathan leads to sleeplessness.
- Derangmentof Abaanan leads to constipation.

Pitham

- In Karappan commonly affected type of Pitham is Ullollithee (Prasakapitham).
- Normally Prasakapitham gives complexion to the skin. In Karappan the skin becomes hyperpigmented and lose its normal colour.

Kabam

- Kabam is usually not affected in karappan. In my study Santhikam was affected in some patients.

UDAL THAATHUKKAL

Panchabootham forming the basic constituents of these Thaathukkal get deranged. Commonly affected Udal Thaathukkal are Saaram, Senneer.

Derangement of Saaram leads to depression and tiredness of mind and body. Deranged Senneer affects colour of the skin.

GNANENTHIRIYAM

Panchabootham forming the basic constituents of these Gnanenthiriyam get deranged. Commonly affected Gnanenthiriyam is Mei producing itching, papule, vesicle formation, oozing, crusting, scaling, and hyperpigmentation.

KANMENTHIRIYAM

Panchabootham forming the basic constituents of these Kanmenthiriyam which are not commonly affected in karappan.

PINIYARI MURAIMAI (DIAGNOSTIC METHODS)

Piniyarimuraimai is the method of diagnosing disease. It is based on the following principles:

1. Poriyalarithal
2. Pulanalarithal
3. Vinaathal

Poriyalarithal and pulanalarithal goes hand in hand with the concept of examining the patient's 'Pori' and 'Pulan' with that of physician's 'Pori' and 'Pulan'.

'Vinaathal' is a method of enquiring about the details of the patient's problem from his own words or from his parents or neighbours who are taking care of the patient, when the patient is not able to speak (or) if the patient is a child.

EnvagaiThervu (Eight Types of Examination)

"நாடிப் பரிசம் நா நிறம் மொழிவிழி
மலம் மூத்திரமிவை மருத்துவராயுதம்"

- *தேரன்*

The Eight Types of Examination

1. Naadi (Pulse reading)
2. Sparisam (Tactile sensation)
3. Naa (Tongue)
4. Niram (Color)
5. Mozhi (Speech or Voice)
6. Vizhi (Eyes)
7. Malam (Stools)
8. Moothiram (Urine)

1.Naadi

In Karappan the following types of naadi could be felt. They were,

Vathapitham

Pithavatham

Kabam

2.Sparisam

In Karappan patient's general body temperature - slight warmth,

Dryness, roughness and elevation of skin was noted.

3.Naa

In some patients, coated tongue was noted.

4.Niram

Skin colour becomes dark.

5.Mozhi

No change or disturbance in voice was noted.

6. Vizhi

There are no changes in the vision.

7.Malam

In Karappan some patients have constipation.

8.Moothiram

Neerkuri

Urine is collected after taking a well-balanced diet which do not alter the three thodam. It should be examined within 3-3/4 Nazhigai. (90 minutes).

In Neerkuri, the Niram (Colour), Manam (Odour), Nurai (froth), Eadai (specific gravity) and Enjal (deposits) are noted.

Apart from these the frequency of urination, abnormal constituents such as sugar, protein, presence of blood, pus, and renal crystals must also be found out. In Karappan patients straw coloured urine was noticed.

Neikkuri:

The collected specimen as said above is to be analyzed by following method. The specimen is kept open in a glass dish or china clay container. It is to be examined under direct sunlight, without any shaking of the vessel. Then add one drop of gingelly oil on the surface of the urinary specimen and the Neikkuri was noted in direct sunlight, and conclude the diagnosis as follows:

Character of Vathaneer

"அரவென நீண்டினஃதே வாதம்"

When the oil drop lengthens like a snake, it is called "VaathaNeer".

Character of Pithaneer

"ஆளி போற்பரவின் அஃதே பித்தம்"

When the oil drop spreads like a ring, it is called "Pithaneer".

Character of Kabaneer

"முத்தொத்து நிற்கின் மொழிவதென் கபமே"

When the oil drop appears like a pearl, it is called "KabaNeer".

Character of Thonthaneer

Snake in the ring, ring in the snake, snake in the pearl and ring in the pearl are the characters of thonthaneer.

In Karappan the Neikkuri was **Vaathaneer, Pithaneer and Kabaneer.**

NOI KANIPPU VIVAADHAM (DIFFERENTIAL DIAGNOSIS):

காளாஞ்சக வாதம்

"மாத மாங் கால்கையில் குரக்கி ரண்டும்
வருத்து சந்து முறுக்கியே குடைந்து நொந்து
நாதமா நடைதானுந் தான்கெடாமல்
நலிந்துமே முடமாகிக் கரடு கட்டிச்
சேதமாஞ் சடந்தானு மிகவெ ளுத்துத்
தினவோடு சிரங்குமாய்ச் சேட்பமாகிக்
காதமாய ருசியொடு மயக்கமாகும்
கருதிய காளாஞ் சகமாம் வாதமாமே"

- யூகி வைத்திய சிந்தாமணி

KALANJAGA VAATHAM :

Symptomised by Yugi Vaithya Chinthamani

- Unrelenting pain in joints
- Restriction of movements
- Pallor
- Syncope
- Vesicle formation

படர்தாமரை பெருநோய்

”கூடுமேதாமரையின் பூவிதழ்ப் போல்
குவிந்துமேகறுப்போடுவெளுப்புமாகும்
தேடுமேசிவப்புபலவர்ணமாகும்
தினவுமிகவாராதுசொனையிற் பன்னீர்
வாட்டுமேஅய்யிணுற் பத்தியாகி
வருத்தமிகவுண்டாகிநோவுமாகும்
போடுமேசரீரங்கள் முகங்கள் காது
புண்டரீகக் குட்டத்தின் புதுமைதானே”

- *யூகிவைத்தியசிந்தாமணி*

PADARTHAMARAI PERUNOI – YUGI VAITHYA CHINTHAMANI

Symptomised by

- Erythematousness
- Hypo and Hyperpigmentation
- Excessive fatigue

LINE OF TREATMENT

In Siddha system of medicine, the main aim of the treatment is to cure the disease by removing the root cause. Treatment is not only for perfect healing but also for prevention and rejuvenation.

“நோய்நாடி நோய்முத னாடி யதுதணிக்கும்
வாய்நாடி வாய்ப்பச்செயல்”

–திருவள்ளுவர்

Thiruvalluvar says in **“Thirukkural”** about physician’s duty to study the disease, study the cause, seek subsiding ways and do what is proper and effective.

In Siddha system, the line of treatment consists of:

- Neekkam (Treatment)
- Niraivu (Rejuvenation of wellbeing)
- Kaappu (Prevention)

Rules for healthy living has been quoted in Patharthagunachinthamani as follows,

"திண்ண மிரண்டுள்ளே சிக்க வடக்காமற
பெண்ணின்பா லொன்றைப் பெருக்காமல்- உண்ணுங்கால்
நீர்சுருக்கி மோர்பெருக்கி நெய்யுருக்கி யுண்பவர்தம்
பேருரைக்கிற் போமே பிணி".

-தேரையர்

Treatment

- விரேசனம்
- உள்மருந்து
- வெளிமருந்து
- பத்தியம்

Viresanam(Purgation):

"விரேசனத்தால் வாதம் தாழும்
வமனத்தால் பித்தம் தாழும்
நசிய அஞ்சனத்தால் கபம் தாழும்
துகின்ற மலக்கட்டை யொழிய வைத்தால்
உடலிலுள்ள வாதையெலா மொடுங்கிப் போகும்
அறிந்திடும் வாதம் அடங்கும் மலத்தினில்".

For purgation, Agathiyar kuzhambu with Sangangkuppi juice was administered at early morning before starting the treatment to bring the vitiated Uyirthathukkal to normal.

Internal Medicine:

Kukkilaathi Chooranam– 1.5gms, two times a day with warm water.

Anubanam

"அனுபானத்தாலெ யவிழ்தம் பலிக்கும்
இனிதான சுக்குஇஞ்சி - பினுமுதுகால்
கோமயம்பால்முலைப்பால் கோநெய்தேன் வெற்றிலைநீர்
ஆமிதையா ராய்ந்து செய்யலாம்"

- **தேரையர் வெண்பா**

External Medicine:

Karappan Mel Poosu Thylam

Pathiyam (Dietary Regimen):

"பெருகுஞ் சோள மிறுங்கும் பெரும்கம்பு
வரகு காருடன் வாழையின்-காயொடு
உரைகொள் பாகற் கெளிற்றுமீன் உண்டிடில்
விரிவ தாய்க்கரப் பானுமிகுந்ததே"

- **பதார்த்த குண சிந்தாமணி**

"புளிதுவர் விஞ்சு கறியார் புரிக்கும் வாதம்"

- **பதார்த்த குண சிந்தாமணி**

In Siddha system of medicine the importance of dietary habits also emphasised for the diseases management and prevention. This line is well understood in the verse, given below: In diseased condition diet restrictions or pathiyam are strictly followed to increase the effectiveness of medicine for curing diseases. This is given in the following verse,

Diet restrictions or pathiyam should be strictly followed in Karappan patients. These are prescribed to normalize the deranged thodam and to increase the potency of the drugs.

Patients are strictly advised to follow the dietary and other restrictions:

- Avoid the maize, pearl millet, kodomillet, fox tail millet, Sesban, Brinjal, Kaararisi, Bitter gourd, Pickles, Tamarind.
- Avoid all non-vegetarian foods.
- To avoid substances allergic to the particular individual.
- To take Thiridhoda samapporulkal (elam, manjal, seeragam, kaayam, chukku, venthayam, poondu, milagu).

- To take vegetables and green leafy vegetables.To take more germinated grams, dates, figs and powder of fenugreek regularly.
- To use Nalunguma a Siddha herbal preparation which contains Sandanam, Vettiver, Vilamichamver, Kichilikizhangu, Karbogi, Paasipayiru, Koraikizhangu instead of soap and other detergents for bath.

SPECIAL TREATMENTS:

Skin is the reflex of mind and so we should treat not only the physical but also treat mind and soul. There by patients are advised to do yoga practice. In Karappan, patients are advised to do Pranayamam, Dhyanam and Asanams for speedy cure and prevention of recurrences.

1)Yogasanam (Posture):

- Padhmasanam
- Sukaasanam
- Savasanam (Poornasanthiasanam) - Regular practice of asanam maintains both physical and mental health.

2)Pranayamam (Breathing technique):

- Nithirai pranayamam
- Omkara pranayamam - are useful to relieve patients stress and strain. Also it increases alertness, memory and maintains a clear mind.

YOGAM

Yogam is a precious art that the Siddhars contributed to the Tamil and the Tamil medicine, to the Siddha system of medicine, and to the people of the world at large.

Yogam is one of the Kayakalpam methods that preserve physical and mental health by preventing the approach of grey hair, wrinkling, disease and death.

There are people who think only of Yogasanam (postures) whenever we use the term Yogam but Yogam consists of eight steps and hence is called AttangaYogam.

The term Yogam means "Union". Siddhars have defined Yoga as an art which controls the mind by preventing it from getting distracted through sense and sense organs and by uniting it with the divinity after realizing the truth of eternal bliss. Professor Yogi Ramaiah has explained this simply as "A perfect scientific art that unites the mind with God or to the Truth".

The eight steps or stages of Yogam are described in a verse of Thirumanthiram, also called Tamil Moovayiram.

"இயம நியமமே எண்ணிலா ஆதனம்
நயமுறு பிராணா யாமம்பிரத் தியாகாரஞ்
சயமிகு தாரணை தியானஞ் சமாதி
அயமுறும் அட்டாங்க மாவது மாமே"

- ✓ Iyamam
- ✓ Niyamam
- ✓ Asanam
- ✓ Pranayamam
- ✓ Prathyakaram
- ✓ Dharanai
- ✓ Dhyanam
- ✓ Samathi

ASANAM

Asanam means posture or pose, that is, the position of our body with reference to space. There is another interpretation by Siddhars: A + Samanam – A means athma and Samanam means poise or relaxation. Relaxing athma implies relaxing it from stressful

conditions of this worldly life. In other words, it means relieving athma from the lure of sensual pleasures. As Asanam forms a part of Yogam it is also called Yogasanam.

Definition:

Keeping the body or part of the body steady and motionless in a particular posture for a specific time is Asanam.

YOGAM TECHNIQUES TO BE OBSERVED BY THE KARAPPAN PATIENTS

- ✓ Meditative postures
  - o Padmasanam / Sukasanam
- ✓ Pranayamam
  - o Omkara Pranayamam
  - o Nithirai Pranayamam
- ✓ Savasanam

MEDITATIVE POSTURES

PADMASANAM

Tamil name: ThamaraiAsanam

English name: Lotus pose

The term Padmam or Thamarai means lotus. The beginners in Asanam should get trained in this Asanam first, because this form is a basic asanam for many other asanams. This asanam is one of the meditative postures.

Technique:

(1).Put the right leg on the left thigh, keeping the right heel pressing down the lower abdomen or (2).Put the left leg on the right thigh,keeping the left heel pressing down the lower abdomen. This posture is called Paathi Thamaraiasanam (Ardhapadmasanam - half-lotus pose)

Beginners in Thamaraiasanam better practice half-lotus pose for some days. First day they can practice (1) and the subsequent day (2) as explained above, and this can be continued alternatively for some days and then lotus pose in its full form can be practiced as follows:

First do as explained in (1) and follow the steps as explained in (2) above. i.e., combine (1) and (2). Now place left hand with palm facing upward on the lap and then right hand similarly over the left (Pambu or Bairavamuthirai) or place the hands on the knees,

with palms facing upwards and keep the thumbs and the index fingers touching each other in the form of a circle and keep the other three fingers extended (Gnana muthirai).

The vertebral column should be kept erect and head straight with eyes closed or open depending upon the meditation technique. This is Puranapadmasanam (complete lotus pose)

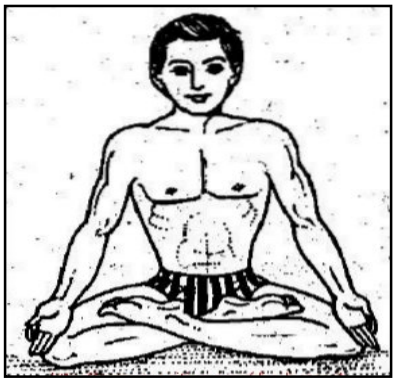
To begin with, this Asanam can be practiced for 1 to 3 minutes and the duration can be increased according to our need in the course of time.

Relaxing the Asanam:

From the summit or the final completed stage of Asanam, the Asanam should be relaxed step by step in the reverse order. First, the left leg followed by the right leg should be taken away from the thighs to reach Sukasanam, then stand up and finally to the zero stage.

The counterpose for this Asanam is Savasanam or Pooranashanthiasanam.

Benefits:



- Calms the brain.
- Mental concentration is increased.
- Joints, especially the knee joints are strengthened.
- Prevents joint disorders in old age.
- Increases digestive function.
- Produces clarity of the mind and briskness.
- Stimulates the pelvis, spine, abdomen, and bladder.
- Eases menstrual discomfort and sciatica.
- Consistent practice of this pose until late into pregnancy is said to help ease childbirth.
- Traditional texts say that Padmasanam destroys all disease and awakens kundalini.
- The thigh and calf muscles become stronger.
- Arthritis of knee, ankle and hip joints is relieved with practice of Padmasanam.
- The pose helps attain a straight posture.
- Padmasanam ensures the required blood supply to the abdomino-genital and pelvic areas.
- Padmasanam tones up the abdomen and spine.

SAVASANAM

English Name: corpse pose

This posture is so named, in the summit of this posture one observes a motionless state (except breathing) like that of dead body.

Technique:

Lie down on the back on a nice bedspread spread out on a floor with an even surface. With palms facing upwards on the sides half a foot apart from the body. Leaving half a foot gap in between the heels, keep the legs in a relaxed manner. By allowing the head to turn freely to left to right side, keep the head and neck in a relaxed manner. Keep the eyes gently closed. Maintain normal breathing. Keeping the whole body from head to foot in a relaxed manner. Observe this Asanam for 15 to 30 minutes or even more, if necessary.

Benefits:

- ✓ Relieves physical and mental tiredness.
- ✓ One must do this asanam lastly after performing all other asanams and may maintain this till the physical and mental tiredness resulting from performing a number of asanam get relieved.
- ✓ If hard physical labourers do this asanam as soon as they return home from work, it improves good refreshment and tiredness would take leave of them.
- ✓ Sound sleep ensues if one observes this asanam for about 10 minutes before retiring to bed. Calms the brain and helps relieve stress and mild depression.
- ✓ Relaxes the body.
- ✓ Reduces headache, fatigue, and insomnia.

PRANAYAMAM

The perfect and scientific art of controlling one's breathing is called Pranayamam. It is also called Vaasi or Vaasiyogam. By bringing to control the breathing that goes normally, automatically and in a regular rhythm and fixing the duration and amount of breathing differently as described by Siddhars, different types of Pranayamam are devised.

Pranayamam is one of the rejuvenation techniques which prolong one's lifetime. This is indicated by Thirumoolar as follows:

"ஏற்றி இறக்கி இருகாலும்பூரிக்கும்
காற்றை பிடிக்கும் கணக்கறி -வாரில்லை
காற்றை பிடிக்கும் கணக்கறி வாளர்க்குக்
கூற்றை உதைக்கும் குறியது வாமே"

ஏற்றி இறக்கி denotes the act of increasing or decreasing the quantity of air inspired during respiration. இருகாலும்பூரிக்கும் denotes saturating the two lungs with the vital air by inspiring through the nostrils. In this காற்றைபிடிக்கும் கணக்கறி வாளர் is the one who is engaged in the practice of Pranayamam. கூற்று means Yaman, the one who takes the life from the body. கூற்றை உதைக்கும் குறி means that Pranayamam is the means of preventing Yaman from approaching the one who practices it.

Benefits:

- ✓ Pranayamam not only useful in the treatment of diseases of lungs and respiratory tract but proves beneficial as a main or supportive therapy in the treatment of diseases of skin, nervous system including brain, and diseases of the mind.
- ✓ It is useful in developing body resistance and also in increasing the memory and mental concentration.
- ✓ It removes bad odour and renders sattvika gunam (good characters) predominant.

NITHIRAI PRANAYAMAM

English Name: Sleeping Pranayamam.

Technique:

1. Sit on a bedspread or a smooth mat in Sukhasanam or Padmasanam with Pambu Muthirai (Bairava Muthirai) or Chin Muthirai.
2. Close your eyes and concentrate on your breathing.

3. Through both nostrils breathe in slowly, steadily and gradually to the maximum at the same time calculating the total time taken for this Poorakam (inspiration) by counting inwardly as 1, 2. 3 ….at the same pace throughout.
4. As soon as the Poorakam is over, start Resakam (expiration) observing the same technique explained in 3 but see to it that the time taken for expiration is only half the time taken for inspiration.
5. Repeat the technique 30 to 40 times.

N.B: The above description is based on the teachings of Yogi S. A. Ramiah.

Benefits:

- ✓ Induces sleep.
- ✓ Relieves stress and other symptoms like headache, heaviness of head, tiredness.

OMKARA PRANAYAMAM

Technique:

1. Sit on a bedspread or a smooth mat in Sukasanam or Padmasanam with Pambu Muthirai (Bairava Muthirai) or Chin Muthirai.
2. Close your eyes and concentrate on your breathing.
3. Through both nostrils breath in slowly, steadily and gradually to the maximum at the same time chanting the manthiram AUM in a such a way that the sound 'A' (i.e Akaram) occupies the 50% of the time taken for inspiration and 'U'(i.e Ukaram) 20% and 'M' (i.e Makaram) the remaining 30% of the time taken in order.
4. Repeat the process again and again for 30 to 40 times.

Benefits:

- ✓ Relieves stress.
- ✓ Ensures sound sleep.
- ✓ Increases memory power and concentration.
- ✓ Increases exercise tolerance.
- ✓ Nourishes the nervous system.
- ✓ Purifies blood.

MODERN ASPECTS

SKIN ANATOMY

INTRODUCTION

The integument or skin is the largest organ of the body in surface area and weight, making up 16% of body weight, with a surface area of 1.8 m^2. It has several functions, the most important being to form a physical barrier to the environment, allowing and limiting the inward and outward passage of water, electrolytes and various substances while providing protection against micro-organisms, ultraviolet radiation, toxic agents and mechanical insults. It also acts as a reservoir for the synthesis of Vitamin D. Skin is a dynamic organ in a constant state of change, as cells of the outer layers are continuously shed and replaced by inner cells moving up to the surface. Although structurally consistent throughout the body, skin varies in thickness according to anatomical site and age of the individual. The skin consists of two layers: the epidermis and the dermis. Beneath the dermis lies the hypodermis or subcutaneous fatty tissue. Hair, nails, sebaceous, sweat and apocrine glands are called as derivatives of skin. Wounding affects all the functions of the skin.

A.EPIDERMIS

The epidermis is mainly composed of layers of keratinocytes but also containing melanocytes, Langerhans cells and Merkel cells. The thickness of the epidermis varies indifferent types of skin. It is the thinnest on the eyelids at 0.05 mm and the thickest on the palms and soles at 1.5 mm. The epidermis contains no blood vessels and is entirely dependent on the underlying dermis for nutrient delivery and waste disposal via diffusion through the dermoepidermal junction. The epidermis is a stratified squamous epithelium that consists primarily of keratinocytes in progressive stages of differentiation from deeper to more superficial layers.It contains 5 layers. From bottom to top the layers are named:

- Stratum Basale
- Stratum Spinosum
- Stratum Granulosum
- Stratum Lucidum
- Stratum Corneum

The stratum germinativum or the basal layer is immediately superficial to the dermoepidermal junction. This single cell layer of keratinocytes is attached to the basement membrane via hemi desmosomes.

Specialized Epidermal Cells

There are three types of specialized cells in the epidermis

- The melanocyte produces pigment (melanin).
- The Langerhan's cell is the frontline defence of the immune system in the skin.
- The Merkel's cells function is not clearly known.

EPIDERMAL APPENDAGES

Epidermal appendages are intradermal epithelial structures lined with epithelial cells with the potential for division and differentiation. Epidermal appendages include sebaceous glands, sweat glands, apocrine glands, mammary glands, and hair follicles. They often are found deep within the dermis, and in the face may even lie in the subcutaneous fat beneath the dermis. The following glands and structures are found in the epidermis:

SWEAT GLANDS

There are thought to be over 2.5 million on the skin surface and they are present over the majority of the body. They are located within the dermis and are composed of coiled tubes, which secrete a watery substance. They are classified into two different types: eccrine and apocrine.

ECCRINE GLANDS

They are found all overthe skin especially on the palms, soles, axillae and forehead except margins of the lip, labia minora, glans penis and inner aspect of the prepuce. They are under psychological and thermoregulatory center in the hypothalamus control. Sympathetic (cholinergic) nerve fibres innervate eccrine glands. The normal function of the sweat gland is to produce sweat, which cools the body by evaporation. The watery fluid they secrete contains chloride, lactic acid, fatty acids, urea, glycoproteins and mucopolysaccharides. Each gland consists of a coiled secretory intradermal portion that connects to the epidermis via a relatively straight distal duct.

APOCRINE GLANDS

Apocrine glands are larger, the ducts of which empty out into the hair follicles. These are the scent glands. They are present in the axillae, anogenital region and areolae .They become active at puberty, producing an odourless protein-rich secretion which when acted upon by skin bacteria gives out a characteristic odour. These glands are under the control of sympathetic (adrenergic) nerve fibres. Apocrine glands are similar in structure but not identical to eccrine glands. Modified apocrine glands are found in the ear canal (ceruminous glands), eyelids (Moll's glands), and in the breasts (mammary glands).

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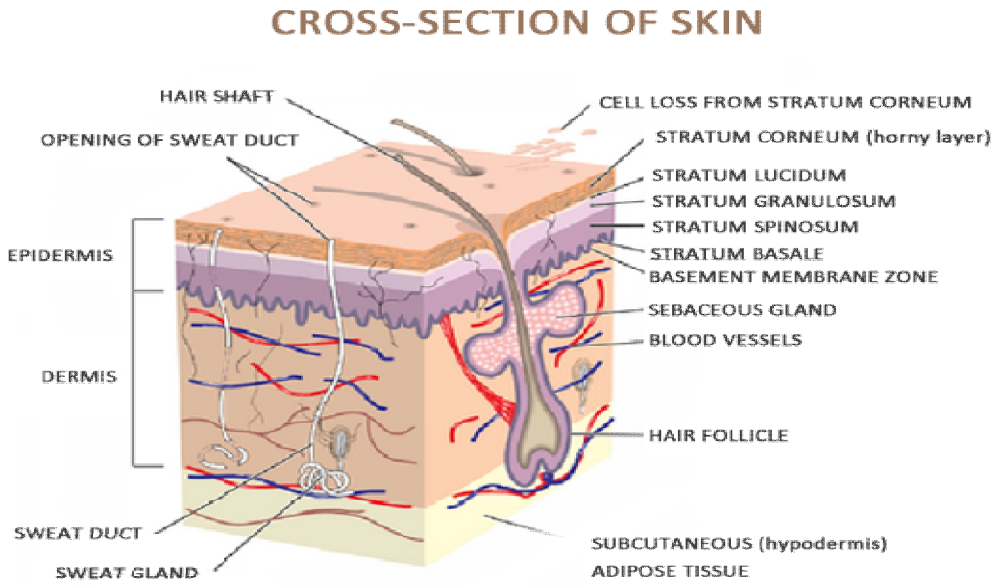
SEBACEOUS GLANDS

These glands are derived from epidermal cells and are closely associated with hair follicles especially those of the scalp, face, chest and back. They are not found in hairless areas.They are small in children, enlarging and becoming active at puberty, being sensitive to androgens. They are largest and most concentrated in the face and scalp where they are the sites of origin of acne. They produce an oily sebum by holocrine secretion in which the cells break down and release their lipid cytoplasm. Sebum lubricates the skin to protect against friction and makes it more impervious to moisture.



HAIR

They are found over the entire surface of the body except the soles of the feet, palms, glans penis, clitoris, labia minora, mucocutaneous junction, and portions of the fingers and toes.Hair differs in length, thickness and colour. It grows about 1-2 cm per month. The growth of Hair is controlled by endocrine.Hair follicles are complex structures formed by the epidermis and dermis.. The base of the hair follicle, or hair bulb, lies deep within the dermis and, in the face, may actually lie in the subcutaneous fat. This accounts for the remarkable ability of the face to re-epithelialize even the deepest cutaneous wounds.Each hair follicle is lined by germinative cells, which produce keratin and melanocytes, which synthesise pigment. The hair shaft consists of an outer cuticle, a cortex of keratinocytes and an inner medulla. The root sheath, which surrounds the hair bulb, is composed of an outer and inner layer. An erector pili muscle is associated with the hair shaft and contracts with cold, fear and emotion to pull the hair erect, giving the skin `goose bumps'.

NAILS

It consists of a dense plate of hardened keratin between 0.3 and 0.5 mm thick. It covers the dorsal surfaces of the distal phalanges of the fingers and toes. The nail is made up of a nail bed, nail matrix and a nail plate. The surface of the skin on which the nail rests is known as the nail bed .The nail matrix is composed of dividing keratinocytes, which mature and keratinise into the nail plate. The visible portion of the nail is called the nail plate. The proximal edge of the nail is known as the nail root. The nail plate appears pink due to adjacent dermal capillaries and the white lunula at the base of the plate is the distal, visible part of the matrix. The thickened epidermis which underlies the free margin of the nail at the proximal end is called the hyponychium. Fingernails grow at 0.1mm per day; the toenails more slowly grower than fingernails.

B. DERMIS

The area of supportive connective tissue between the epidermis and the underlying subcutis. The dermis varies in thickness, ranging from 0.6 mm on the eyelids to 3 mm on the back, palms and soles. It is found below the epidermis and is composed of a tough, supportive cell matrix. Two layers comprise the dermis:

- a thin papillary layer (superficial layer)
- a thicker reticular layer (deeper layer)

The papillary dermis lies below and connects with the epidermis. It contains thin loosely arranged collagen fibres. Thicker bundles of collagen run parallel to the skin surface in the deeper reticular layer, which extends from the base of the papillary layer to the subcutis tissue.The dermis is composed of collagen, elastic tissue and reticular fibers. Collagen fibres make up 70% of the dermis, giving it strength and toughness. Elastin maintains normal elasticity and flexibility while proteoglycans provide viscosity and hydration. The primary function of the dermis is to sustain and support the epidermis.

The reticular layer also contains fibroblasts, mast cells, nerve endings, lymphatics, and epidermal appendages. Surrounding the components of the dermis is the gel-like ground substance, composed of mucopolysaccharides (primarily hyaluronic acid), chondroitin sulfates, and glycoproteins. The deep surface of the dermis is highly irregular and borders the subcutaneous layer, the panniculus adiposus, which additionally cushions the skin. The fibroblast is the major cell type of the dermis. These cells produce and secrete procollagen and elastic fibers. Procollagen is terminally cleaved by proteolytic enzymes into collagen that aggregates and becomes cross-linked.

Specialized Dermal Cells

The dermis contains many specialized cells and structures:

- The hair follicles are situated here with the Arrector pili muscles that attaches to each follicle.
- Sebaceous (oil) glands and apocrine (scent) glands are associated with the follicle.
- This layer also contains eccrine (sweat) glands, but they are not associated with hair follicles.
- Blood vessels and nerves course through this layer. The nerves transmit sensations of pain, itch, and temperature.
- There are also specialized nerve cells called Meissner's and Vater-Pacini corpuscles that transmit the sensations of touch and pressure.

DERMO-EPIDERMAL JUNCTION/BASEMENT MEMBRANE

This is a complex structure composed of two layers. Abnormalities here result in the expression of rare skin diseases such as bullous pemphigoid and epidermo-lysis bullosa. The structure is highly irregular, with dermal papillae from the papillary dermis projecting perpendicular to the skin surface. It is via diffusion at this junction that the epidermis obtains nutrients and disposes of waste. The dermoepidermal junction flattens during ageing which accounts in part for some of the visual signs of ageing.The dermoepidermal junction is an undulating basement membrane that adheres the epidermis to the dermis. It is composed of 2 layers, the lamina lucida and lamina densa. The lamina lucida is thinner and lies directly beneath the basal layer of epidermal keratinocytes. The thicker lamina densa is in direct contact with the underlying dermis.

C. SUBCUTANEOUS TISSUE

This layer is important in regulation of skin temperature and the body. This is made up of loose connective tissue and fat, which can be up to 3 cm thick on the abdomen.

BLOOD AND LYMPHATIC VESSELS

The dermis receives rich blood supply. A superficial artery plexus is formed at the papillary and reticular dermal boundary by branches of the subcutis artery. Branches from this plexus form capillary loops in the papillae of the dermis, each with a single loop of capillary vessels, one arterial and one venous. The veins drain into mid-dermal and subcutaneous venous networks. Dilatation or constriction of these capillary loops plays a direct role in thermoregulation of the skin. Lymphatic drainage of the skin occurs through abundant lymphatic meshes that originate in the papillae and feed into larger lymphatic vessels that drain into regional lymph nodes.

NERVE SUPPLY

The skin has a rich innervation with the hands, face and genitalia having the highest density of nerves. All cutaneous nerves have their cell bodies in the dorsal root ganglia and both myelinated and non-myelinated fibres are found. Free sensory nerve endings lie in the dermis where they detect pain, itch and temperature. Specialised corpuscular receptors also lie in the dermis allowing sensations of touch to be received by Meissner's corpuscles and pressure and vibration by Pacinian corpuscles. The autonomic nervous system supplies the motor innervation of the skin: adrenergic fibres innervate blood vessels, hair erector muscles and apocrine glands while cholinergic fibres innervate eccrine sweat glands. The endocrine system regulates the sebaceous glands, which are not innervated by autonomic fibres.

FUNCTIONS OF SKIN:

- Protective Function
- Immunological Function
- Sensory Functions
- Secretion and Excretion
- Synthesis of Vitamin D
- Body heat regulation
- Endocrine function
- Storage function of skin

ECZEMA

Definition

Eczema is a non - contagious chronic skin disease which is characterized by erythema, scaling, oedema, oozing and vesiculation.

Ref: Practice of Dermatology-Bhel

The term eczema is derived from the Greek, meaning "to boil out." The name is particularly apt since to ancient medical practitioners it may have appeared that the skin was "boiling". Today the usage is rather imprecise since it is frequently used to describe any sort of dermatitis (inflammatory skin conditions). Not all dermatitis is eczematous. All eczematous dermatitis has a similar appearance. The itching may be so intense that it interferes with sleep.

Eczema occurs when skin is more sensitive to certain substances than normal. The appearance, severity, symptoms and triggers of eczema vary between individuals. There is currently no cure for eczema, but eczema can be controlled with regular medical care and a good treatment plan. Some types of eczema can be prevented by avoiding stress, irritants, and things that cause allergic reactions.

Eczema is generally not a serious condition, but there is a potential for complications, such as a secondary bacterial or fungal infection of the eczema rash. Early diagnosis and treatment can help reduce your risk for complications.

Eczematous diseases are very common with an estimated prevalence of more than 10% in the general population. According to statistics 15-25% of all dermatological patients suffer from eczema.

For the age group 6 to 7 years, the prevalence of current eczema ranged from 0.9% in India to 22.5% in Ecuador, with new data showing high values in Asia and Latin America. For the age group 13 to 14 years, prevalence values ranging from 0.2% in China to 24.6% in Columbia with the highest values in Africa and Latin America. Current eczema was lower for boys than girls (odds ratio, 0.94 and 0.72 at ages 6 to 7 years and 13 to 14 years, respectively.The prevalence of eczema is on the increase and currently affects 12-15% of all school-age children and 2-10% of adults.

Ref:www.jacionline.org/article/S0091-6749(09)01535-8/abstract

AETIOLOGY

The causes of eczema are unknown. Effective eczema management requires a combination of prevention and treatment. In addition to preventing eczema flare-ups by minimizing any known triggers, treatment is also an important part of eczema management. Basically, two factors cause dermatitis and eczema.

- Allergic or sensitive skin.
- Exposure to an irritant.

The dermatologist Darier has said that, "There is no eczema but an eczematous patient".

The general predisposing causes are Age, Genetic and familial predisposition, [3] General debility, Climate, Psychological stress, Local Factors, Food as allergens.

Age

Eczema sometimes occurs in infancy, at puberty and at the time of menopause.

Genetic & familial predisposition

There is usually a personal or family history of allergy, viz asthma, eczema and hay fever.

General debility

Lowering of resistance of the individual in general debility predisposes to eczema.

Climate

Climate extremes like heat and severe cold.

Psychological stress

Local factors

- Xeroderma or ichthyosis, a greasy skin hyperhidrosis, varicose veins.
- Direct contact with pet and domestic animals (especially their saliva or fur) and indirect contact with animal dander.
- Rough, scratchy, tight clothing, especially clothes made of wool (or) stiff fabrics.
- The frequent use of soaps and cleaning products that tend to affect the shiny nature of the skin.

Food as allergens

a) Animal sources

- Cow's milk – Casein and lactoglobulin are known to be the major allergen. Egg white is the allergising factor.
- Any species of fish can be responsible for allergic reactions.

- Meats of all kinds –It has been observed in cases of hypersensitiveness to the meat of a certain animal, the liver, pancreas, kidney and brain.

b) Plant sources

- Wheat flour – allergic reaction due to wheat gluten.
- Some workers in glue factories using soya flour as an ingredient of glue, develop severe allergic symptoms.
- Peas, beans and lentils have been reported to produce allergic reactions in some individuals.
- Consumption of edible mushrooms sometimes may cause allergic reactions.
- The vegetables which have been found to produce allergic reactions in some individuals are carrot, spinach, cabbage, onion, garlic, sweet potato, cauliflower and pumpkin.
- Among the fruits, strawberries, bananas, oranges, grapes and apples are the principal offenders.
- Occasionally allergic reactions can occur due to consumption of pears, cherries, plums, gooseberries.
- Citrus fruits and tomatoes may cause atopic allergy.

c) **Beverages**

Allergic actions are due to traces of foreign substances derived from food materials employed in the preparations or clarifying the beverage, such as; Barely malt and yeast in beer & Rye corn and wheat in whisky.

Cosmetics

Common ingredients in cosmetics such as perfumes, face creams, deodarents, hair dye, shampoos, parabens, benzocaine, lanolin, thimersol, etc.

Clothing

Rubber chappals, spectacle, resins, frames, furs, nylon, synthetic dyes. Most buttons of formaldehyde resins, epoxy resins are all common sensitizers.

Medicaments

This include Sulphonamides, Penicillin, Streptomycin, Cocaine, Tincture benzoin, Neomycin, Furacin, Phenargan cream & sticking plaster etc. Dettol, savlon,cetavlon are primary irritants.

INDUSTRIAL AND OCCUPATIONAL AGENTS

Occupational

- Agriculturists - Plants, weeds, fertilizers, oils.
- Automobile - Oil, petrol, solvent, grease, paints, thinner.
- Building workers - Cement, lime, paints, insecticides, kerosene oil.
- Chemical Pharmaceutical industries - Dyes, Chemicals, explosives, solvents, disinfectants, detergents
- Coal miners - Mechanical injuries
- Dentists - Cocaine and its derivatives
- Engineering industries - Cutting oils, solvents, detergents
- Housewives - Soaps, detergents, vegetables, fruits, nickel, polishes, artificial flavours, dyes, flowers, keys.
- Nurses and Doctors - Iodine, streptomycin, chlorpromazine, tincture.
- Painters - turpentine, paints, detergents
- Photographers - metal,bichromate
- Plastic factory workers -resins, hardeners, solvents, glass, cellulose esters
- Rubber workers - T.M.T, M.B.T, dyes, glues, oils
- Tannery workers - Chromate, formaldehyde, arsenic, alkalies, acids.
- Textile workers - Formaldehyde, solvents, dyes, bleaches.

Ten common allergens come across in practice

- Paraphenylene diamine
- Nickel sulphate
- Pottasium dichromate
- Parthenium hysterophorus
- Nitrofurazone ointment
- Neomycin sulphate
- Formaldehyde
- Turpentine
- Garlic
- Epoxyresin

EXACERBATING FACTORS

- Irritants - Physical, chemical or electrical
- Sensitizers - Plants, clothing, cosmetics, medicaments, infection, diet.
- External infections - Streptococci, Staphylococci, fungus.
- Mental and emotional conflicts.
- Internal septic focus shedding toxins or causing bacteremia.
- Diet and state of digestion.
- Diathesis - Allergic, Xerodermic, hyperhidrotic or seborrhoeic
- Drugs - given for the disease or otherwise.
- State of local or general nutrition
- Climate - Temperature and humidity

Scratching, Chemical trauma, Climate, Stress and Strains keep the process going with the result that eczema becomes chronic.

It is still controversial whether the endogenous factors like diet, emotional strain and stress, focal sepsis, state of digestion, nutrition are more important than exogenous factors like infection, irritants and sensitizers (or) vice versa. In practice mixed eczemas are much more common than pure entities. History and clinical observation are very important in establishing the exact etiological diagnosis.

IMMUNOLOGY

Immunology is a science which deals with the body's response to antigenic challenge. These mechanisms are involved in the protection of the body against infectious agents but periodically they can also cause damage.

Sensitization develops when a different clone of T-lymphocytes is activated. The sensitized T-lymphocytes yield two sub populations of lymphocytes. Memory cells those are responsible for the persistence of contact allergy. Effector cells that initiate the allergic response when appropriately challenged.

PATHOPHYSIOLOGY

Allergy & hypersensitivity

Both terms are synonyms. The concept of hypersensitivity was first introduced by Portier and Richet. The term allergy was first used by Von Pirquit (1874 - 1929) to denote changed reactivity of the body to outside chemicals. Changed reactivity in this context means that the body behaves in a particular way when it is exposed to a chemical substance known as 'Allergen' for the first time, but changes the nature of its reaction

when it is exposed for the second and subsequent times. This change is due to proteins known as antibodies. The moment, the allergen IgE combination stimulates the mast cells which unload their chemical contents into the surrounding tissues. These chemicals (mediators of allergy) cause the manifestations of allergy such as erythema, wheal and flare reaction. Flare is due to dilatation of arterioles by local axon reflex and the liberation of vasodilator substances like histamine and its by products like serotonin, bradykinin, acetylcholine from the injured cells like mast cells and basophils etc., The manifestation of hypersensitivity may be immediate (or) delayed type.

Cutaneous Allergy

In the skin two important but different allergic reactions occur.

Dermal reaction

- Dermal reaction is commonly seen in urticaria.
- The causative antigen reaches the skin through ingestion, inhalation or injection of protein substances and the reacting antibodies circulate in the serum.
- Allergic reaction takes place in the dermis.
- Intra dermal tests (scratch) show reactivity.

Epidermal reaction

- It is seen in allergic dermatitis or eczema.
- The causative substance reaches the skin by contact intra dermal allergic tests are negative.
- But patch test shows reactivity.
- Allergen + Epidermal protein – Antigen formation (probably in lymph glands)
- Circulation - Fixed in epidermal cells on next occasion.
- Allergen + Antibodies – Eczematous reaction (In epidermis)
- A severe local reaction may result in auto-intoxication & dissemination of eczematous reaction to distant parts.

Status Eczematicus

It is believed that in case of severe allergic states, a state may develop when the patient becomes hypersensitive to even unrelated substances resulting in status eczematicus comparable to status asthmaticus in practice of internal medicine.

Reaction time

It is the time taken by a sensitized individual to manifest a clinical reaction following contact with a known sensitizer. It is usually 12-24 hours but may vary from one hour to 120 hours.

Dissemination reaction

It is a fleeting erythematous macular reaction involving the face and flexures, caused by the escape of lymphokines in the circulation resulting in vasodilatation at distant site.

Cause of recurrence

Flare reaction is reactivation of a previously healed site of a contact dermatitis or a positive patch test reaction following renewed challenge or exposure to the same allergen at another site. This is because of persistence of sensitized lymphocytes at the site of earlier reaction, which react to minute amounts of antigen sometimes escape in the circulation form the new site and find its way to the old site. Further it must be realised that Dermal or epidermal sensitization affects the entire integument and this sensitization once acquired is lifelong. According to some, a degree of bloating in reactivity may be seen with the passage of time.

CLINICAL FEATURES

Eczema is a specific type of allergic subcutaneous manifestation of antigen antibody reaction. It is characterized by superficial inflammatory oedema of the epidermis associated with vesicle formation. Itching varies from mild to severe paroxysms which may even interfere with work and sleep. The natural history of eczema is represented as follows:

It can differ in severity, frequency and duration among individuals. Symptoms frequently begin in infancy, reoccur during childhood, and disappear during adulthood. Flare-ups, however, can be unpredictable throughout your lifetime.

Skin areas affected by eczema can exhibit a variety of characteristics including:

- Blistering
- Darkening of the area of skin affected by eczema (hyperpigmentation)
- Dryness
- Flaking
- Inflammation (swelling, irritation and warmth)
- Scaling
- Small red bumps
- Thickening of the affected skin due to frequent scratching. Scratching the area affected by eczema generally does not relieve the itching and can lead to increased inflammation, more intense itching, and harder scratching.

CLASSIFICATION

- Atopic eczema
- Seborrhoeic eczema
- Discoid eczema
- Asteatotic eczema
- Gravitational eczema
- Neurodermatitis
- Infectious eczematoid dermatitis
- Photodermatitis

Detergents, alkalies, acids, solvents and abrasive dusts are common causes. Irritant eczema accounts for the majority of industrial cases and work loss. The elderly, those with fair and dry skin and those with an atopic background are especially vulnerable. Napkin eczema in babies is common and due to irritant ammoniacal urine and faeces. Strong irritants elicit an acute reaction at the site of contact whereas weak irritants most often cause chronic eczema, especially of the hands after prolonged exposure.

Allergic contact dermatitis

Definition

Allergic contact dermatitis is an eczematous rash that develops after contact with an agent due to delayed cellular hypersensitivity.

Aetiology (Allergens)

They are classified into two groups

- Non proteins - Dyes, oils, resins, coal for derivates, rubber, cosmetics.
- Proteins - Bacterial products, fungi and parasites are included in this group. Persons may be exposed to allergens for years before finally developing hypersensitivity. The sensitized area although usually generalized may be strictly localized.

Eg: Eczema of the ear lobes, wrists and back due to contact with nickel in costume, jewellery.

Some common skin allergens

- Nickel -Jewellery, Jean stuels, bra clips.
- Dichromate -Cement leather, matches.
- Neomycin, benzocaine - Topical applications.
- Parabens - Preservative in cosmetics and creams.

- Wool alcohols - Lanolin, Cosmetics, creams.
- Epoxy resin - Resin adhesives.
- Rubber -chemicals Clothing, shoes, tyres.
- Colophony - Sticking plaster, collodion.
- Paraphenylene diamine - Hair dye, clothing.
- Balsam of peru - Perfumes, citrus fruits.

Prognosis

Contact dermatitis usually clears up without complications in 2 or 3 weeks. However, it may return if the substance or material that caused it cannot be found or avoided.You may need to change your job or job habits if the disorder is caused by occupational exposure.

Complications:

Bacterial skin infections may occur.

Photo dermatitis

Photo dermatitis means photo sensitization of the skin after contact with plants which have either photo toxic or photo allergic action. Dermatitis in this condition, is confined to the exposed parts of the body viz, face, neck, "v" of the chest, hands and external surfaces of the fore arms and dorsum of foot and the adjoining parts of legs.

The common causes of photo dermatitis are,

- Drugs like sulphonamides, chlorpromazine, promethazine, declamycin, terramycin, chlorthiazide, diuretic, different hypotensive and antidiabetic drugs.
- Foods like figs and buck wheat.
- External application of bithionol etc.,
- Plants and their products like parsnips, cow parsnips meadow grass mustards, lime oil, psoralea, bergmot oil etc.

Endogenous eczema

There is no evidence of external irritants or allergens. In endogenous eczema part of the body becomes sensitized to internal body products, toxins from focal sepsis, metabolites that are products of digestion (or) elements of diet and drugs with or without familial predisposition.

ATOPIC ECZEMA

It is also called asthmatic eczema syndrome.Atopic dermatitis is a long-term (chronic) skin disorder that involves scaly and itchy rashes. Atopic dermatitis is due to a hypersensitivity reaction (similar to an allergy) in the skin, which leads to long-term swelling and redness (inflammation) of the skin. People with atopic dermatitis may lack certain proteins in the skin, which leads to greater sensitivity. Atopic dermatitis is most common in infants. It may start as early as age 2 to 6 months. People with atopic dermatitis often have asthma or seasonal allergies. There is often a family history of allergic conditions such as asthma, hay fever, or eczema. People with atopic dermatitis often test positive to allergy skin tests.

Aetiology

The inheritance of atopic eczema is controversial. The disorder is concordant in 86% of monozygotic twins but in only 21% of dizygotes. Atopic diseases show maternal imprinting i.e., they are inherited more often from the mother than from the father.

Distribution and character of rash

Infancy

The eczema is often acute and involves the face & trunk.

The napkin area is frequently spared.

Childhood

The rash settles on the back of the knees, front of the elbows, wrists and ankles.

Adults

The face and trunk are once more involved and lichenification is common.

Diagnostic criteria

Itchy skin and at least three of the following:

- History of itch in skin creases (or cheeks if < 4 years).
- History of asthma / hay fever (or in a first – degree relative if < 4 years).
- Dry skin (Xeroderma).
- Visible flexural eczema (cheeks, forehead, outer limbs if < 4 years).
- Onset in first 2 years of life.

Prognosis:

In children, the condition often clears beginning at around age 5 - 6, but flare-ups will often occur. In adults, it is generally a long-term or returning condition.

Complications:

Infections of the skin caused by bacteria, fungi, or viruses.

Permanent scars.

SEBORRHOEIC ECZEMA

Synonym: Dandruff; Seborrheic eczema; Cradle cap

Seborrhoeic dermatitis is a common, inflammatory skin condition that causes flaky, white to yellowish scales to form on oily areas such as the scalp or inside the ear. It can occur with or without reddened skin. Cradle cap is the term used when seborrheic dermatitis affects the scalp of infants.

Causes:

It is due to pityrosporum ovale infection of the skin. Seborrheic dermatitis appears to run in families. Stress, fatigue, weather extremes, oily skin, infrequent shampoos or skin cleaning, use of lotions that contain alcohol, skin disorders (such as acne), or obesity may increase the risk.

In its milder forms it is the same as dandruff whereas when severe it may resemble psoriasis.Human immunodeficiency virus (HIV) has also been linked to increased cases of seborrheic dermatitis. Symptoms of seborrheic dermatitis include:

- Skin lesions- Greasy, oily areas of skin
- Plaques over large area
- Skin scales - white and flaking, or yellowish, oily, and adherent - "dandruff"
- Itching - may become more itchy if infected
- Mild redness
- Hair loss

Prognosis:

Seborrheic dermatitis is a chronic (life-long) condition that can be controlled with treatment. It often has extended inactive periods followed by flare-ups. A more extreme form of this condition overlaps with psoriasis of the scalp and is called sebopsoriasis.

Complications:

- Psychological distress, low self -esteem, embarrassment
- Secondary bacterial or fungal infections

DISCOID ECZEMA

Synonym: Nummular eczema

Nummular eczema is an allergy-related disorder in which itchy, coin-shaped spots or patches appear on the skin.

Aetiology

The cause of nummular eczema is unknown, but there usually is a personal or family history of:

- Allergies
- Asthma
- Atopic dermatitis

It is relatively uncommon, and most often occurs in elderly men.

Several things may make the condition worse, including

- Dry skin
- Environmental irritants
- Stress
- Temperature changes

ASTEATOTIC ECZEMA

This is frequently seen in the hospitalized elderly especially when the skin is dry, low humidity caused by central heating over washing and diuretics are contributory factors. It occurs most often on the lower legs as a rippled or crazy paving pattern of fine fissuring on an erythematous background.

GRAVITATIONAL (STASIS) ECZEMA

Persistent inflammation of the skin of the lower legs commonly associated with venous incompetency. The eruption is usually localized to the ankle, where oedema, erythema, mild scaling and brownish discoloration occur. Secondary bacterial infection and eventual ulceration may occur. The cause is mainly due to perivascular fibrin deposition and abnormal small – vessel vaso constrictive reflexes.

NEURO DERMATITIS

Synonym: Lichen simplex chronicus

Affecting more commonly neurotic people.

Definition

This condition may be defined as the lichenification process resulting from chronic scratching and rubbing of the skin under stress and anxiety.

Clinical features

The skin becomes thickened, infiltrated and pigmented. The criss cross markings become more prominent. Margins are irregular and usually well defined.

Common sites

The nape of the neck, arms, ano-genital area, back of knees, legs and ankles.

POMPHOLYX

Synonym: Dyshidrosis, dyshidrotic eczema

Dyshidrotic eczema is a condition in which small, usually itchy blisters develop on the hands and feet. Recurrent vesicles and bullae occur on the palms, palmar surface of the fingers and soles. It is most common in adult life (20-40 yrs). But is often idiopathic.

Symptoms:

- Small fluid-filled blisters called vesicles appear on the fingers, hands, and feet. They are most common along the edges of the fingers, toes, palms, and soles. These blisters can cause intense itching and scaly patches of skin that flake constantly or become red, cracked, and painful.
- Scratching leads to skin changes and skin thickening. Large blisters may cause pain.

Provoking factors are:

Heat

Stress

Nickel ingestion

Prognosis:

Dyshidrotic eczema normally goes away without problems, but symptoms may return later. Excess scratching may lead to thick, irritated skin, which is more difficult to treat and takes longer to heal.

Complications:

- Pain and itching that limits the use of the hands
- Secondary bacterial infection

RADIODERMATITIS

It implies dermatitis produced by excessive doses of X-rays received by the skin.

INFECTIOUS ECZEMATOID DERMATITIS

Synonym: Infective eczema

This results from sensitization to certain organisms like streptococci, staphylococci, dermatophytes and yeast organisms.

Common sites: Body folds, hair follicles.

Sub divisions

1) Post traumatic infective eczema

It starts with a crack in the integrity of the skin brought on by an injury, a blister, an insect bite or exposure to a cold wind etc.

Eczematization secondary to acute tinea, particularly tinea pedis is frequently seen. It starts from digital spaces and spreads to the dorsum of the foot or the soles.

2) Follicular infective eczema

It involves hairy region like the scalp, beard and legs. It starts usually with pityriasis capitis which gets complicated by one (or) several itchy patches of oozing, pits and crusting. The eczema spread to fore head, retro auricular folds and cheeks. streptococi, staphylococci and less so Pityrosporon organism are the causatives.

3) Flexural infective eczema

The flexures are the sites of predilection. It starts with a crack in the depth of the fold and two opposing surfaces are equally affected. The inner part looks moist and red and only at the periphery is crusting clearly evident.

Infantile eczema

This occurs in children between the ages of three months and two years. It usually starts on the cheeks, spreading slowly to forehead, chin, scalp, arms, trunk, legs, buttocks and in the groins, napkin rash like dermatitis may develop.

Clinical features

Characterized by erythema, vesicles, exudation and crusting pruritus is a prominent symptom, it comes in spasms. To start with the infants are usually plump.

Complications:

When left untreated, eczema can develop into an escalating cycle of itching, scratching and inflammation. In some cases, the excessive scratching can introduce bacteria or fungus into the layers of the skin, resulting in infections that can be serious in some people. Complications include:

- Bacterial or fungal infection of the skin
- Cellulitis (an infection of the skin and surrounding tissues caused by a growing bacterial or fungal infection)
- Open sores and lesions
- Permanent change in skin texture or scarring and Permanent skin discoloration

Lifestyle changes and general treatments for eczema

- Avoiding alcohol and caffeine
- Avoiding hot tubs, steam baths, saunas, and chlorinated swimming pools
- Avoiding scratchy clothes
- Drinking plenty of fluids
- Getting skin patch testing, in which small amounts of common allergens are applied methodically to the skin to determine what substances are triggering the allergic response that leads to the eczema
- Minimizing skin dryness by using lotion specifically designed for sensitive skin
- Preventing flare-ups by avoiding exposure to the specific allergen or allergens that induce the condition
- Using a perfume-free moisturizer
- Using ice bags or cool wet compresses to help relieve itching and inflammation
- Using mild soaps and not over washing or harshly scrubbing skin

INVESTIGATIONS OF ECZEMA

Patch test

Patch tests detect type IV (delayed or cell-mediated) hypersensitivity. It is common practice for a battery of around 20 common antigens, including common sensitizers such as nickel, rubber and fragrance mix to be applied to the skin of the back under aluminium discs for 48 hours. The sites are then examined for a positive reaction 24 hours later and possibly again a further 24 hours later. The positive test is revealed by the development of an eczematous patch with erythema swelling and vesicles at the site of application.

Patch test reaction is graded in the following degrees

+	-	Only redness
++	-	Marked redness and swelling
+++	-	Marked redness, swelling and papules
++++	-	redness, oedema and vesicles

Specific IgE levels to antigens can be measured in serum by a specific radio allergic sorbent test (RAST). These are occasionally performed to support diagnosis of atopic eczema and to determine specific environmental allergens, eg. pet dander, horse hair, house dust mite, pollens and foods.

Prick tests

Prick tests are a way of detecting cutaneous type I (immediate) hypersensitivity to various antigens such as pollen, house dust, mite or dander.

Bacterial and Viral swabs for microscopy and culture

These are useful tests in suspected secondary infection skin swabs for bacteriological assessment will invariably reveal the presence of bacteria. In the case of recurrent impetigo in a child with atopic eczema, bacterial swabs should be taken from carrier sites (axillae and groin) from both the affected individual and house hold members.

Hints of diagnosis for all eczemas

- Nature of the lesions - size, shape, itching, number of papules, pustules, erythema etc.,
- Distribution - sites of lesion.
- History of occupation.
- History of exposure to allergens - i.e. Chemicals, plants, soap, etc.,
- Personal and family History of such diseases - e.g atopic or allergic eczemas
- Climate - eg: Dyshidrosis occurs at the change of seasons particularly in spring, summer.
- Patch tests (allergy test) in allergic/ atopic eczemas.
- Biopsy in rare cases when the lesions do not respond to treatment.

PROGNOSIS OF ECZEMA

Dermatitis and eczema are as rule curable conditions. Eczema are ineffective except when they are leave scars. The patient needs reassurance of these points. It must be remembered that epidermis is an ectodermal structure and so takes time to heal. Energetic treatment is to be strongly discouraged. Acute eczemas heal readily in about 1-4 weeks with treatment. Chronic eczemas in which anatomical and functional changes set in take time to disappear. Disseminated and generalized eczemas are not only slow to heal, but are accompanied by ill health. Infantile and atopic eczemas are troublesome and uncomfortable. The former lasts till the age of twenty five or even though life. Its course is marked by spontaneous remissions and exacerbations. Psychogenic stresses climate extremes and poor health aggravate eczema. The cure of these conditions is retarded in tropical countries by heat, humidity and the prevalent unhygienic conditions.

The SCORAD index

A = spread.../100

B = intensity.../18

C = subjective symptoms.../20

SCORAD calculation: A/5 + 7.B/2 + C

1.Extent criteria

2.Intensity criteria

- Erythema : stage 1 / stage 2 / stage 3
- Edema / papulation : stage 1 / stage 2 / stage 3
- Oozing / crusting : stage 1 / stage 2 / stage 3
- Excoriation : stage 1 / stage 2 / stage 3
- Lichenification : stage 1 / stage 2 / stage 3

3.Subjective symptoms

The two most representative items concerning the quality of life of patients are :

- Pruritus
- Insomnia

SCORAD is a clinical tool for evaluating the severity of atopic dermatitis in order to provide better management of patients.

GRADES OF ECZEMA:

A useful way to classify eczema is based on the degree of activity and the duration the eczema has been active.

1. Acute

Acute in medical language means of rapid onset. Often conditions that come on over a short period of time are also quite vigorous in their activity, although strictly speaking acute should not be taken to be another word for severe. Acute eczema therefore would be an area that recently flared up and would be red, probably also have blisters and possibly some oozing or crusts.

2. Chronic

Chronic properly means long-standing. Once the initial phase of activity has died down a bit of skin that has been eczematous for a while is dry, scaly, thickened and cracked.

3. Infected

At any stage of eczema it can become infected. This won't always be obviously different from acute eczema unless there are pus-filled blisters. With experience one can usually discern the golden crust of infection and pick up the other clues that suggest infection.

PREPARATION OF TRIAL DRUGS

METHOD OF PREPARATION :

INTERNAL MEDICINE: KUKKILAATHI CHOORANAM

Ingredients:

Purified Chukku (Zingiber officinale, Rosc)	- 1 Palam(35gms)
Purified Milagu (Piper nigrum, Linn)	- 1 Palam (35gms)
Purified Thippili (Piper longum, Linn)	- 1 Palam (35gms)
Purified Karunjeeragam (Nigella sativa,Linn)	- 1 Palam (35gms)
Purified Kukkil (Vateria indica, Linn)	- 5 Palam(175gms)
Purified Vellarugu (Enicostemma axillare,(Lam)Raynal)	- 3 Palam (105gms)

PURIFICATION OF RAW DRUGS:

Purification of Chukku- Dried Ginger : :

Soak it in limestone water for a period of time, dry it and the outer layer is peeled off.

Ref: Sarakku Suthi Sei Muraikal Pg. No-28

Purification of Milagu -Black Pepper :

Soak it in butter milk for a period of 1 saamam(3hours) and dry it

Ref: Sikicha Rathna Deepam Pg. No-28

Purification of Thippili -Long pepper:

Soak it in lime juice and dry it

Ref: Sikicha Rathna Deepam Pg. No-28

Purification of Karunjeeragam -Black Cumin:

Cleaned, dried in sunlight and then fried in low flame.

Ref: Sikicha Rathna Deepam Pg. No-30

Purification of Kukkil:

Boil it in tender coconut water

Ref: Sarakku Suthi Sei Muraikal Pg. No-4

Purification of Vellarugu:

Washed with water and dried well

Ref: Sikicha Rathna Deepam Pg. No-28

Method of preparation:

All the above mentioned ingredients are dried, finely powdered and preserved.

Ref – Sarabaendhira Vaidhya Muraigal Virana karappan roga sikichai(Pg no.264)

EXTERNAL MEDICINE: KARAPPAN MEL POOSU THYLAM

Ingredients:

Puli elai (Tamarindus indica)	- 1 ½ Palam
Aavaarai verppattai (Rootbark of Cassia auriculata)	- 1 ½ Palam
Karunjeeragam (Nigella sativa)	- 1 ½ Palam
Milagu(Piper nigrum,linn)	- 1 ½ Palam
Vasambu sutta kari (Ash of Acorus calamus)	- 1 ½ Palam
Karbogi vidhai (Seeds of Psoralia corylifolia)	- 1 ½ Palam
Aadutheenda paalai charu (Extract of Aristolochia bracteolata)	- Q.S
Gingelly oil	- 10 Palam

Method of preparation:

Aavaarai verpattai, Karunjeeragam, Milagu, Vasambu sutta kari, Karbogi vidhai, Puli yilai are ground well with Aadutheenda palai chaaru. The ground material is added to Sesame oil and kept exposed to sun light for 3 days.

Ref:Vaidhya sinthamani- Sikicha Rathna Deepam-Page no.205

PROPERTIES OF TRIAL DRUGS

சுக்கு

BOTANICAL NAME	**:**	Zingiber officinale
ENGLISH NAME	**:**	Dried ginger
FAMILY	**:**	Zingiberaceae

ORGANOLEPTIC CHARACTER:

Suvai	**:**	Kaarppu
Thanmai	**:**	Veppam
Pirivu	**:**	Kaarppu

பொதுக்குணம்:

“சூலைமந்தம் நெஞ்செரிப்பு தோடமேப் பம்மழலை
மூலம் இரைப்பிருமல் மூக்குநீர்- வாலகப
தோடமதி சாரந் தொடர்வாத குன்மநீர்த்
தோடம்ஆ மம்போக்குஞ் சுக்கு”.

-அகத்தியர்குணவாகடம்

CHEMICAL CONSTITUENTS:

Camphene, Phellandrene, Zingiberine, Cineol and Borneol, Gingerol a Yellow Pungent body, an Oleoresin-Gingerin the active principle, other resins and starch.

B – Sesquiphellandrene, Gingerdiols, Gingerdiacetates are also present.

Ref:Indian Herbal Pharmacopoeia P - 443

ACTIONS:

Aromatic

Carminative

Stimulant

Stomachic

Digestive

மிளகு

BOTANICAL NAME : Piper nigrum

ENGLISH NAME : Black pepper

FAMILY : Piperaceae

ORGANOLEPTIC CHARACTER:

Suvai : Kaippu, kaarppu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுக்குணம்:

“சீதசுரம் பாண்டு சிலேத்மங் கிராணிகுன்மம்
வாதம் அருசிபித்தம் மாமூலம் -ஓதுசன்னி
யாசமபஸ் மாரம் அடன்மேகம் காசமிவை
நாசங் கறி மிளகினால்”.

-அகத்தியர் குணவாகடம்

CHEMICAL CONSTITUENTS:

A volatile alkaloid Piperine or Pipirine 5-9%, Piperidine or Piperidin 5%, Abalsamic volatile essential 1-2%, fat7%.Mesocarp contains chavicin, a balsamic volatile oil, starch, gum, Piperrettine, Piperanine, Pipericide Sarmentine, Eugenol,

Ref:Indian Herbal Pharmacopoeia, P - 321

ACTIONS:

Carminative

Pungent

Antiperiodic

Analgesic

Anti inflammatory

Antioxidant

Cyclooxygenase inhibitory activity

Ref:Indian Herbal Pharmacopoeia, P – 324

Database, Vol - 190

திப்பிலி

BOTANICAL NAME **:** Piper longum

SYNONYM **:** Charica roxburgii

FAMILY **:** Piperacae

ORGANOLEPTIC CHARACTER:

Suvai **:** Kaarppu

Thanmai **:** Veppam

Pirivu **:** Kaarppu

பொதுகுணம்:

“ஆசனநோய் தொண்டைநோய் ஆவரண பித்தமுதல்
நாசிவிழி காதிவைநோய் நாட்புழுநோய் -வீசிடுவி
யங்கலாஞ்ச னஞ்சிதையும் அம்பாய் அழிவிந்தும்
பொங்கலாஞ்ச நங்கையர்கோட்போல்”.

- தேரன் வெண்பா

CHEMICAL CONSTITUENTS:

Piperine (4 – 5%), Volatile Oil, Piperlonguminine,Piplartine, Sesamin, Terpenoids, Resin, Piperundecalidine.

Ref:Indian Herbal Pharmacopoeia revised – 2002, P – 310,311

ACTIONS:

Stimulant

Carminative

Alterative

கருஞ்சீரகம்

BOTANICAL NAME : Nigella sativa Linn

ENGLISH NAME : Black cumin

FAMILY : Ranunculaceae

ORGANOLEPTIC CHARACTER:

Suvai : Kaippu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுகுணம்:

“கருஞ்சீ ரகத்தான் கரப்பனொடு புண்ணும்
வருஞ்சிராய்ப் பீநிசமு மாற்றும் -அருந்தினால்
காய்ச்சல் தலைவலியுங் கண்வலியும் போமுலகில்
வாய்ச்ச மருந்தெனவே வை”.

-அகத்தியர் குணவாகடம்

CHEMICAL CONSTITUENTS:

Carvone, d – limonene,Cymene, Nigellone, Melanthin, Melanthigenin, Nigellidine – Indazole, Campesterol, Citronellyl Acetate.

Ref: Database Vol – VI, P - 422

- The seeds contain a fatty oil rich in unsaturated fatty acids. The two main unsaturated fatty acids are:
- Linoleic acid (omega-6) 57.9%
- Oleic acid 23.7%

It also contains smaller amounts of saturated fatty acids.

The two main ones present are:

- Palmitic acid 13.7%
- Stearic acid 2.6%

Ref:http://www.healthymuslim.com/articles/tofeo-composition-of-nigella-sativa-black-seed.cfm

ACTIONS:

Carminative

Stomachic

Anthelmintic

Diuretic

குக்கில்

BOTANICAL NAME : **Vateria indica**

ENGLISH NAME : **Damars, Sal tree**

FAMILY : **Dipterocarpaceae**

ORGANOLEPTIC CHARACTER:

Suvai : Kaippu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுகுணம்:

“பெரும்பாடு மேகம்போம் பேரா துடலில்
அரும்பிய புண்ணாறுமிவை யல்லால்-குரும்பாம்
எலும்புருக்கி புண்சீழும் ஏகும் உலகில்
சலம்பருகுங் குங்கிலியத் தால்”.

- அகத்தியர் குணவாகடம்

CHEMICAL CONSTITUENTS:

Resins- stilbenoids

Ref: Database of medicinal plants

ACTIONS:

Stimulant

Expcetorant

Diuretic

Anti-diabetic effect

வெள்ளறுகு

BOTANICAL NAME : Enicostemma axillare

FAMILY : Gentianaceae

ORGANOLEPTIC CHARACTER:

Suvai : Kaippu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுகுணம்:

"குன்மமொடு வாய்வு குடல்வாதம் சூலையிவை
சென்மம்விட் டோடிச் சிதையுங்காண்-வன்முலையாய்
உள்ளுறுகி ரந்திசொறி யொட்டிய சிரங்குமறும்
வெள்ளறுகு தன்னை விரும்பு".

- அகத்தியர் குணவாகடம்

CHEMICAL CONSTITUENTS:

Iron, Calcium, Magnesium, Vitamin C, B Vitamins, Betacarotene,

(Deccan Development Society 2002).

ACTIONS:

Stomachic

Tonic

Alterative

Laxative

Antiulcer and Anti-inflammatory Activity

Ref:http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3019375/

Nadkarni 1976:485

ஆவாரை வேர்ப்பட்டை

BOTANICAL NAME	**:**	Cassia auriculata
ENGLISH NAME	**:**	The tanners- cassia,Avaram
FAMILY	**:**	Caesalpiniaceae

ORGANOLEPTIC CHARACTER:

Suvai	**:**	Thuvarppu
Thanmai	**:**	Veppam
Pirivu	**:**	Kaarppu

பொதுகுணம்:

"மோகத்தி னாலே விளைந்தசலம் வெட்டையனல்
ஆகத்தின் புண்ணோ டருங்கிராணி-போகத்தான்
ஆவாரைப் பஞ்சகங்கொள் அத்திசுரம் தாகமும்போம்
ஏவாரைக் கண்மடமா தே".

- அகத்தியர் குணவாகடம்

CHEMICAL CONSTITUENTS:

Tannin, Alkaloids

Ref: www.academia.edu/.../Elemental_analysis_and_Anti-microbial_poten

ACTIONS:

Astringent

Tonic

Alterative

புளியிலை

BOTANICAL NAME **:** Tamarindus indica

ENGLISH NAME **:** Tamarind tree

FAMILY **:** Caesalpiniaceae

ORGANOLEPTIC CHARACTER:

Suvai **:** Kaippu, kaarppu

Thanmai **:** Veppam

Pirivu **:** Kaarppu

பொதுகுணம்:

“அழுபுண்ணை நீக்கும் அடல்சோபை மாற்றும்
எழுபாண்டு வைப்போக்கும் இப்பால்-முழுதும்
அளியச் சிவந்தகண்ணோ யாற்றுங் கனலாம்
புளியிலையை நன்றாய்ப் புகல்”.

-அகத்தியர் குணவாகடம்

CHEMICAL CONSTITUENTS:

Polyphenols, Flavanoids

Ref: www.ncbi.nlm.nih.gov

ACTIONS:

Stimulant, Antifungal and Antiseptic effects Antibacterial**,** Antioxidant

Ref: http://www.stuartxchange.org/Sampalok.html

வசம்பு

BOTANICAL NAME **:** Acorus calamus

ENGLISH NAME **:** Sweet flag

FAMILY **:** Araceae

ORGANOLEPTIC CHARACTER:

Suvai : Kaarppu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுகுணம்:

“பாம்பாதி நஞ்சற் புதப்ப்புண் வலிவிடபாகங் குன்மம்
சூம்பா ரிரத்தபித் தம்முக நாற்றம்வன் சூலைசன்னி
வீம்பாம்பை காசம் பிலீகஞ் சிலிபதம் வீறிருமல்
தாம்பாங் கிருமி யிவையேகு மாசிவ சம்பினையே”

-தேரையர் குணவாகடம்

CHEMICAL CONSTITUENTS:

Asarone, Calamenol, Calamene, Eugenol, Methyl Eugenol, Pinene, Camphene, Calamol, Azulene

Ref:Database Vol – I, P - 471

ACTIONS:

Stimulant
Stomachic
Antiperiodic
Carminative
Nauseant
Emetic
Disinfectant
Germicide **Ref:Database Vol – I, P – 471**

கார்போகி

BOTANICAL NAME : Psoralea corylifolia (Linn)

FAMILY : Fabaceae

ORGANOLEPTIC CHARACTERS :

Suvai : Kaippu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுக்குணம்:

“கார்போக மாமரிசி கண்டாற் கரப்பான்புண்
பீர்சகுவ நஞ்சிவைபோம் பித்தமுண்டாம் - பார்மீதில்

வாத கபநமைச்சல் வன்சொறிசி ரங்குமறுஞ்
சீத மலர்க்குழலாய் செப்பு”

- அகத்தியர்குணவாகடம்

CHEMICAL CONSTITUENTS:

Corlifolinin,Corylifolin,Limonene,Isonerbavachalcone,Psorlidin-2’,3’-oxide diacetate Isoflavone, Corylinin , along with six known compounds, Isopsoralen , Psoralen , Sophoracoumestan, Neobavaisoflavone , Daidzin and Uracil

Ref: http://www.ncbi.nlm.nih.gov/pubmed/17365188

ACTION:

Vasodilator activity

Laxative

Stimulant

Anti-staphylococcal activity

Ref:journ.pharmacetical society of japan[1989,109(12),926-31]

ஆடுதீண்டாப்பாளை

BOTANICAL NAME : Aristolochia bracteolata(lam)

ENGLISH NAME : Worm-killer

FAMILY : Aristolochiaceae

ORGANOLEPTIC CHARACTERS :

Suvai : Kaippu

Thanmai : Veppam

Pirivu : Kaarppu

பொதுக்குணம்:

“கிரந்திகரப் பன்வெக்கை கேசநலி மாந்தை
யரந்தை வினையை யறுக்கும் - துறந்து
பிரியொணா நோய்களையும் பின்முன்பா ராமல்
மறியுணா மூலியிடை வாய்”

- அகத்தியர்குணவாகடம்

CHEMICAL CONSTITUENTS:

Naphthoquinone, Aristolindiquinone and Magnoflorine, Aristolic acid (4), and the cis- and trans-p-coumaric acids.

Ref: http://www.ncbi.nlm.nih.gov/pubmed/6539809

ACTIONS :

- Antihelmenthic
- Emmenagogue
- Purgative
- Alterative
- Antiperiodic

நல்லெண்ணெய்

BOTANICAL NAME **:** Sesamum indicum

ENGLISH NAME **:** Gingelly oil plant

ORGANOLEPTIC CHARACTER:

Suvai **:** Inippu

Thanmai **:** Veppam

Pirivu **:** Inippu

பொதுக்குணம்:

"புத்திநயனக் குளிர்ச்சி பூரிப்பு மெய்ப்புளகஞ்
சத்துவங் கந்தி தனியிளமை- மெத்தவுண்டாங்
கண்ணோய் செவிநோய் கபாலவழல் காசநோய்
புண்ணோய்போ மெண்ணெய்யாற் போற்று".

-அகத்தியர்குணவாகடம்

CHEMICAL CONSTITUENTS:

Oleic and Linoleic Acid,Calcium, Phosphorus, Sodium Chloride, Lysine, Methionine, Free Fatty Acid, Oxalate and Aflatoxin B_1

Ref:http://www.indianjournals.com/ijor.aspx?target=ijor:anft&volume=8&issue=2&article=003

ACTIONS:

Demulcent

Laxative

Nutritive

Emollient

Ref:Indian Medicinal plants Compendium, Vol – V,P - 104

INGREDIENTS OF KUKKILAATHI CHOORANAM

சுக்கு

மிளகு

திப்பிலி

கருஞ்சீரகம்

வெள்ளறுகு

குக்கில்

KARAPPAN MEL POOSU THYLAM

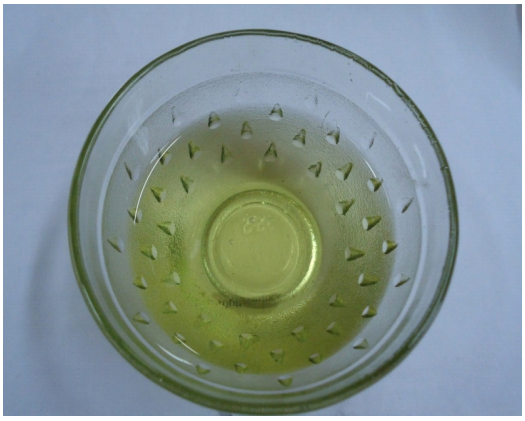
ஆடுதீண்டாப்பாளை

கார்போகி

புளியிலை

ஆவாரை வேர்ப்பட்டை

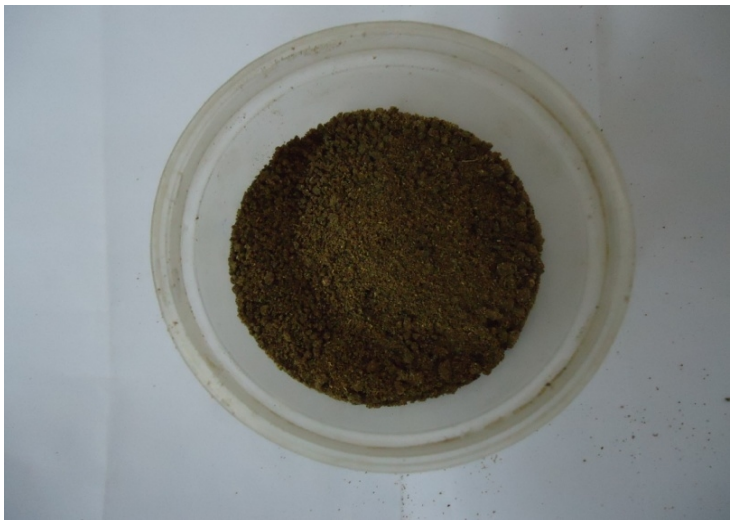
நல்லெண்ணெய்



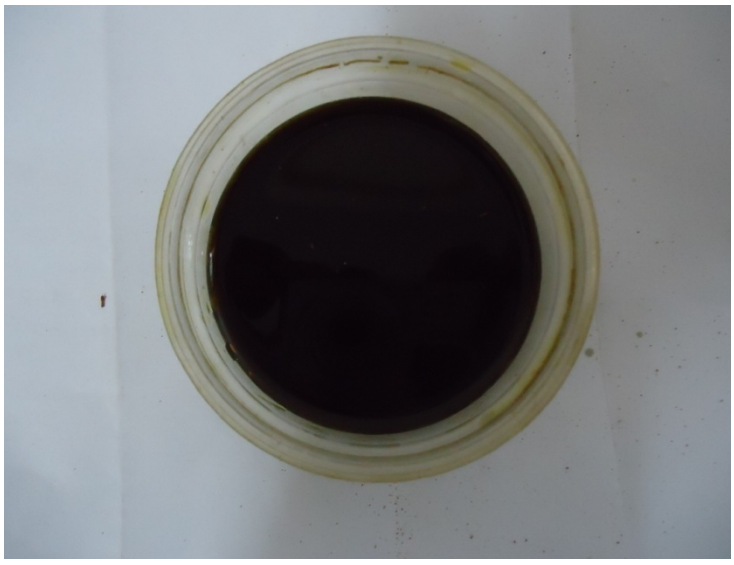
வசம்பு

TRIAL DRUGS

KUKKILAATHI CHOORANAM



KARAPPAN MEL POOSU THYLAM



MATERIALS AND METHODS

STUDY DESIGN:

A Pilot clinical trial

STUDY PLACE:

Ayothidoss Pandithar Hospital,

National Institute of Siddha,

Tambaram Sanatorium, Chennai-47.

STUDY PERIOD:

12 months

SAMPLE:

Patients reporting at Ayothidoss Pandithar Hospital of National Institute of Siddha.

SAMPLE SIZE:

40 patients (20 OP + 20 IP). Out of these 40 Patients, 10 IP patients were given Yogam treatment along with trial medicine.

TRIAL DRUG (INTERNAL):

Kukkilaathi chooranam

Ref: Sarabaendhira Vaidhya Muraigal -Virana karappan roga sikichai(Pg no.264)

Dose: 1.5gm, bd with water.

Duration: 48 days

TRIAL DRUG (EXTERNAL):

Karappan mel poosu thylam

Ref: Vaidhya sinthamani- Sikicha Rathna Deepam-Page no.205

DRUG STORAGE:

The trial drug Kukkilaathi Chooranam was stored in clean and dry glass bottles and Karappan Mel Poosu Thylam was stored in clean and dry narrow mouthed bottles.

DISPENSING:

The Chooranam was given in packets. Oil was given in pet bottles.

ETHICAL CLEARANCE:

After the trial drugs were chosen, they were scrutinized by the Institutional Ethical Committee for ethical clearance.

YOGAM TECHNIQUES ADVISED ARE:

- Meditative postures
    - Padmasanam / Sukaasanam.
- Pranayamam (Omkara Pranayamam, Nithirai Pranayamam).
- Poorana shanthi aasanam.

SUBJECT SELECTION:

Patients reporting with symptoms of inclusion criteria were subjected to screening test and documented using screening proforma.

INCLUSION CRITERIA:

- Age: 20 – 60 years
- Sex: Both male and female
- Itching
- Oozing
- Erythema
- Papules & Vesicles
- Scaling
- Hyperpigmentation
- Willing to give specimen of blood for investigation when required.
- Willing for admission and study in IPD for 48 days or willing to attend OPD

EXCLUSION CRITERIA:

- Diabetes mellitus
- Hypertension and other Cardiac ailments
- Narcotic addicts
- Pregnancy and Lactation
- Evidence of any skin disease other than eczema and Varicose eczema.

WITHDRAWAL CRITERIA:

- Intolerance to the drug and development of adverse drug reactions during drug trial.
- Poor patient compliance and defaulters.
- Patient turning unwilling to continue in the course of clinical trial.
- Any drastic changes occurring in haematological finding during treatment period.
- Increase in severity of symptoms.

TESTS AND ASSESSMENTS:

A. Clinical assessment

B. Siddha system of examination

C. Laboratory investigations

A. CLINICAL ASSESSMENT:

- Itching
- Erythematous lesions with oedema
- Presence of macule / Papule / vesicle / pustule
- Oozing , scaling, lichenification of skin
- Hyper / hypo / depigmentation
- Appearance of new lesions
- Size of the lesions

B. **SIDDHA SYSTEM OF EXAMINATION- EN VAGAI THERVUGAL:**

1. Naadi.
2. Sparisam
3. Naa
4. Niram
5. Mozhi
6. Vizhi
7. Malam
8. Moothiram – Neerkkuri
   Neikkuri

C. LABORATORY INVESTIGATIONS:

BLOOD:

Hb, Total WBC Count

DC - Polymorphs

Lymphocytes

Eosinophils

Monocytes

Basophils

Total RBC count

ESR

Blood sugar-(F) (PP)

RENAL FUNCTION TESTS:

Urea

Creatinine

Uric acid

LIVER FUNCTION TESTS:

Serum total bilirubin

Direct bilirubin

Indirect bilirubin

Serum Alkaline phosphatase

SGOT

SGPT

LIPID PROFILE:

HDL

LDL

VLDL

Total Cholesterol

TGL

URINE:

Albumin

Urine sugar- (F) (PP)

Deposits

MOTION:

Ova

Cyst

DATA COLLECTION FORMS:

FORM I **:** Screening Proforma

FORM II **:** History taking Proforma

FORM III **:** Clinical Assessment Proforma

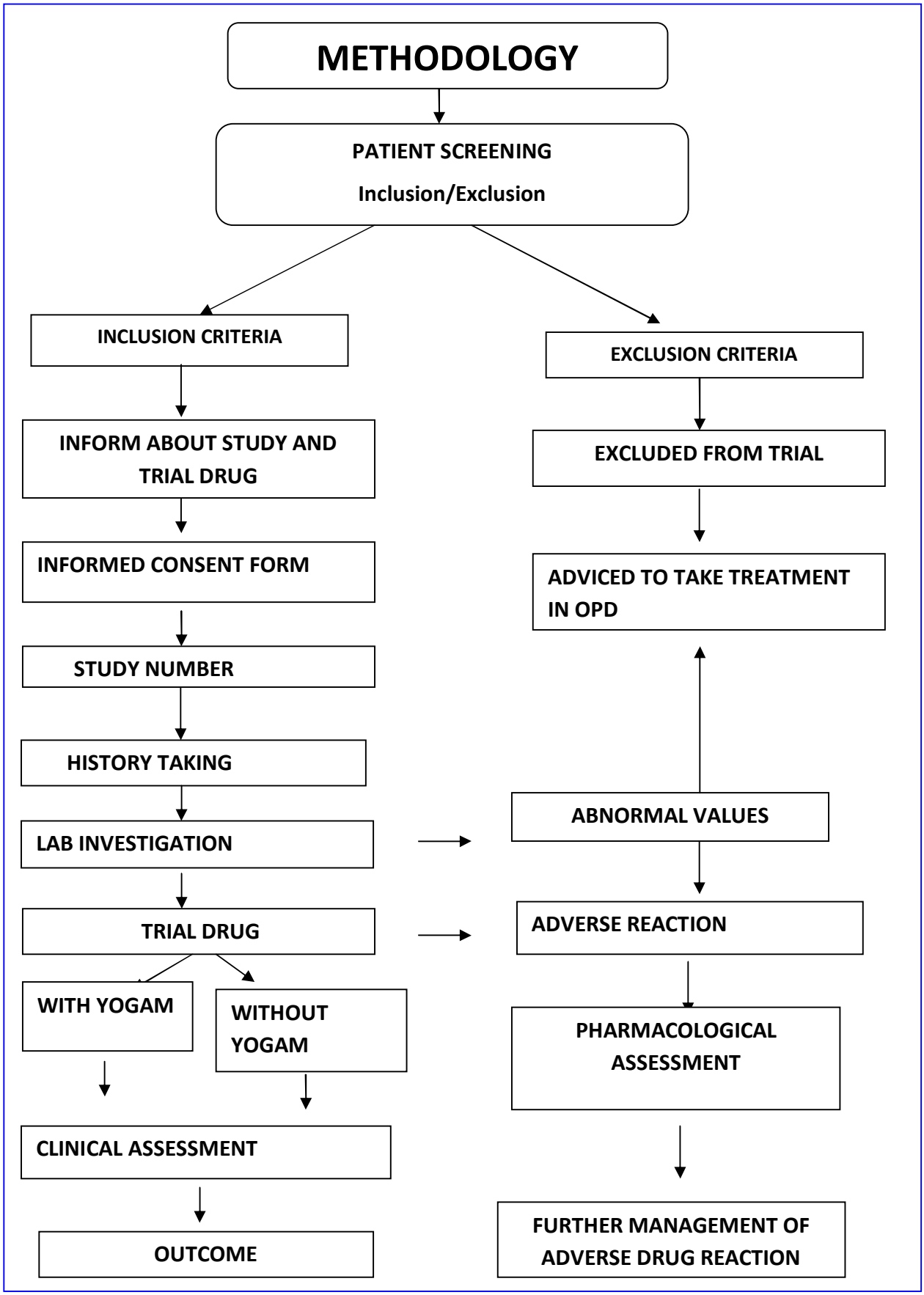
FORM IV **:** Clinical assessment during & after Trial

FORM V **:** Laboratory Investigation Proforma

FORM VI **:** Informed Consent Form

FORM VII **:** Withdrawal Form

FORM VIII **:** Patient Information Sheet


METHODOLOGY
PATIENT SCREENING
Inclusion/Exclusion
INCLUSION CRITERIA
EXCLUSION CRITERIA
INFORM ABOUT STUDY AND TRIAL DRUG
EXCLUDED FROM TRIAL
INFORMED CONSENT FORM
ADVICED TO TAKE TREATMENT IN OPD
STUDY NUMBER
HISTORY TAKING
ABNORMAL VALUES
LAB INVESTIGATION
TRIAL DRUG
ADVERSE REACTION
WITH YOGAM
WITHOUT YOGAM
PHARMACOLOGICAL ASSESSMENT
CLINICAL ASSESSMENT
FURTHER MANAGEMENT OF ADVERSE DRUG REACTION
OUTCOME

STUDY ENROLLMENT

Patients reporting at the OPD with the clinical symptoms of Karappan were examined clinically for enrolling in the study based on the inclusion and exclusion criteria.

The patients who were enrolled were informed (Form VI) about the study, trial drug, possible outcomes and the objectives of the study in the language and terms understandable to them and the informed consent were obtained in writing from them in the consent form (Form VI).

All these patients were given unique registration card in which the patient's Registration number of the study, Address, Phone number and Doctor's phone number etc. were given, so as to report easily should any complications arise.

Complete clinical history, complaints, duration, examination findings and laboratory investigations were recorded in the prescribed Proforma. Screening Form- I was filled up: Form –II and Form –III were used for recording the patient's history, clinical examination of symptoms, signs and laboratory investigations respectively. Patients were advised to take the trial drug and appropriate dietary advice was given according to the patient's perfect understanding.

CONDUCT OF THE STUDY:

Purgation with Agasthiyar Kuzhambu – 130 mg at early morning in empty stomach with Sangangkuppi juice were given for balancing the deranged Uyir thathu on the first day of the treatment.

From the next day onwards, the trial drugs Kukkilaathi Chooranam were internally given continuously for 48 days and Karappan Mel Poosu Thylam were applied externally for 48 days. OPD patients were advised to visit the hospital once in 7 days for 48 days. At each clinical visit, clinical assessment done and prognosis was noted. For 10 IP patients, the drug was given for 48 days along with Yogam. Clinical assessment was done daily for IPD patients. Siddha investigations like Neerkkuri and Neikkuri were done and it was recorded in the proforma, photographs of Neerkkuri and Neikkuri was taken on the first and the 48th day.

Laboratory investigations were done on the first and the 48th day of the trial. After the trial period, the patients were advised to visit the OPD for follow-up for further two months to observe any recurrence. Defaulters were not allowed to continue the trial was withdrawn from the study.

DATA ANALYSIS:

After enrolling the patient in the study, a separate file was maintained for each and every patient and all forms and other information were kept in the file. The screening forms were filed separately. The data entry was monitored by the Head of the department and faculty members of dept. of Sirappu Maruthuvam. All collected datas were statistically analysed by Sr. Research Officer (Statistics) for logical errors and incompleteness of data to avoid any bias. No modification in the results was permitted for unbiased reports. Then final report was generated.

OUTCOME:

The outcome was mainly assessed by reduction in symptoms like itching, oozing etc. Improvement assessed by following assessments.

PRIMARY OUTCOME:

Grade I - Turned to normal skin (good).

Grade II - Reduction of Hyper pigmentation (moderate)..

Grade III -Reduction of itching, oozing and edema (mild)..

Grade IV - Remains the same (no further lesions formed).

Grade V - New lesions appearing.

SECONDARY OUTCOME:

The effect of Drugs + Yogam

Grade I - Turned to normal skin (good).

Grade II - Reduction of Hyperpigmentation (moderate).

Grade III -Reduction of itching, oozing and edema (mild).

Grade IV - Remains the same (no further lesions formed).

Grade V - New lesions appearing.

ADVERSE EFFECT/SERIOUS ADVERSE EFFECT MANAGEMENT:

If the trial patient develops any adverse reactions, he/she would be immediately withdrawn from the trial and proper management was given in OPD of National Institute of Siddha.

ETHICAL ISSUES:

1. To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipments were used.
2. No other external or internal medicines were used other than the trial drug, for treating Varatchi Karappan. There was no infringement on the rights of patient.
3. The data collected from the patient were kept confidential. The patient was informed about the diagnosis, treatment and follow-up.
4. After the consent of the patient (through consent form) they were enrolled in the study.
5. Informed consent was obtained from the patient explaining to him/her in the language understandable to the patient.
6. Treatment was provided free of cost.
7. In case of any serious adverse reactions, the patients were given alternative treatment at the National Institute of Siddha.

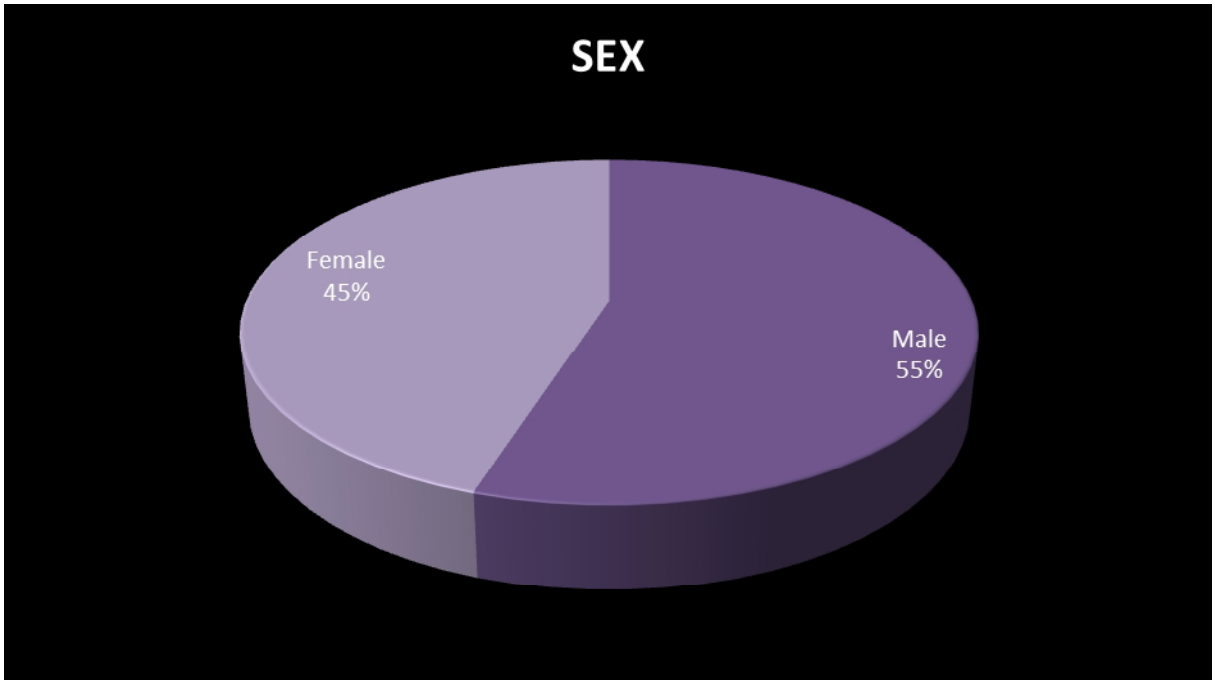
OBSERVATION AND RESULTS

The observation and results have been tabulated under the following headings.

1. Sex distribution
2. Age distribution
3. Kaalam distribution
4. Occupational status
5. Family History
6. Diet habits
7. Paruvakaalam
8. Thinai
9. Yakkai Ilakkanam (Physical Constitution)
10. Gunam
11. Duration of illness
12. Clinical features
13. Site of lesion
14. Distribution of mukkutram
15. Udar Kattugal
16. En Vagai thervugal
17. Neerkkuri, Neikkuri
18. Results after Treatment

1. SEX DISTRIBUTION

Sl No	Sex	No of Cases	Percentage
1	Male	22	55%
2	Female	18	45%



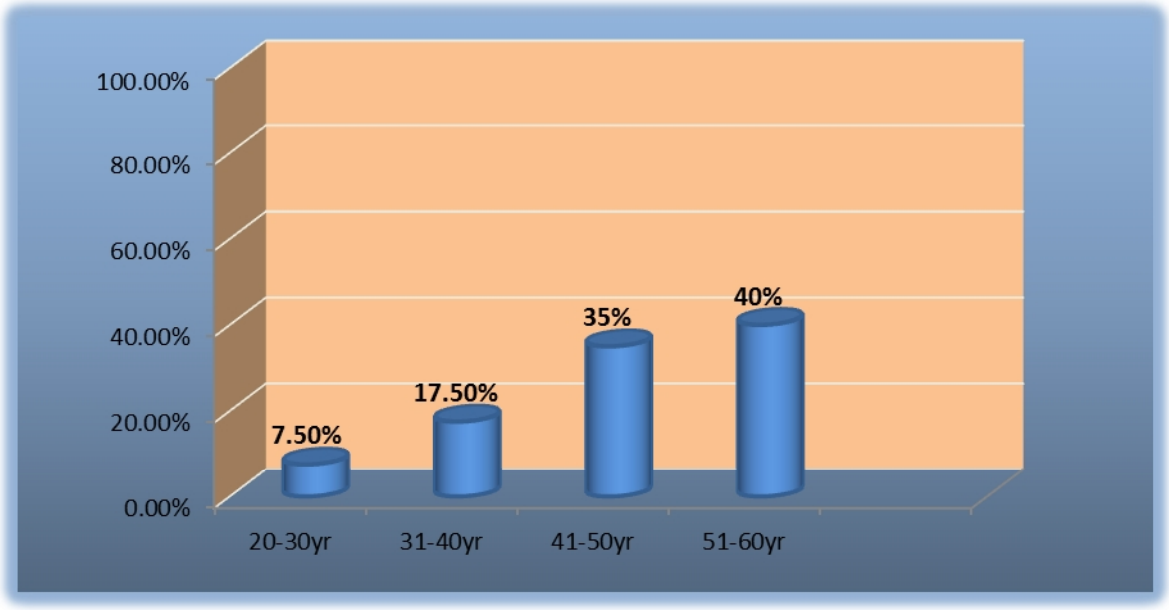
Observation

Among the 40 patients (20 OP+20 IP) selected for this study, 55% were males and 45% females.

2. AGE DISTRIBUTION

Sl. No	Age	No of Cases	Percentage
1	20-30	3	7.5%
2	31-40	7	17.5%
3	41-50	14	35%
4	51-60	16	40%

AGE DISTRIBUTION



Observation

Among the 40 patients selected for this study, maximum numbers of patients 40% were in the age group of 51 to 60, 35% were in the age group of 41 to 50, 17.5% were in the age 31 to 40 and 7.5% were in the age of 20 to 30.

3. KAALAM DISTRIBUTION (According to Age)

In Siddha literature human life has been divided into three periods as follows

1 Vaatham

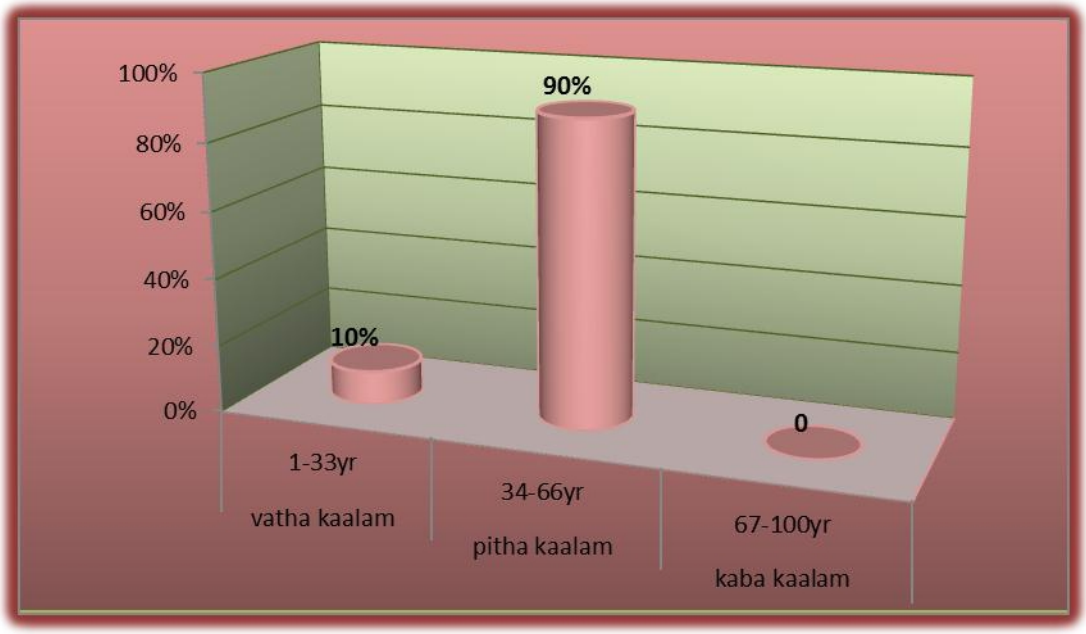
2 Pitham

3 Kabam

The duration of each period is said to be 33 years

Sl No	Kaalam	No of Cases	Percentage
1	Vatha Kaalam (1-33 Years)	4	10%
2	Pitha Kaalam (34-66 years)	36	90%
3	Kaba Kaalam (67-100 years)	0	0%

KAALAM DISTRIBUTION

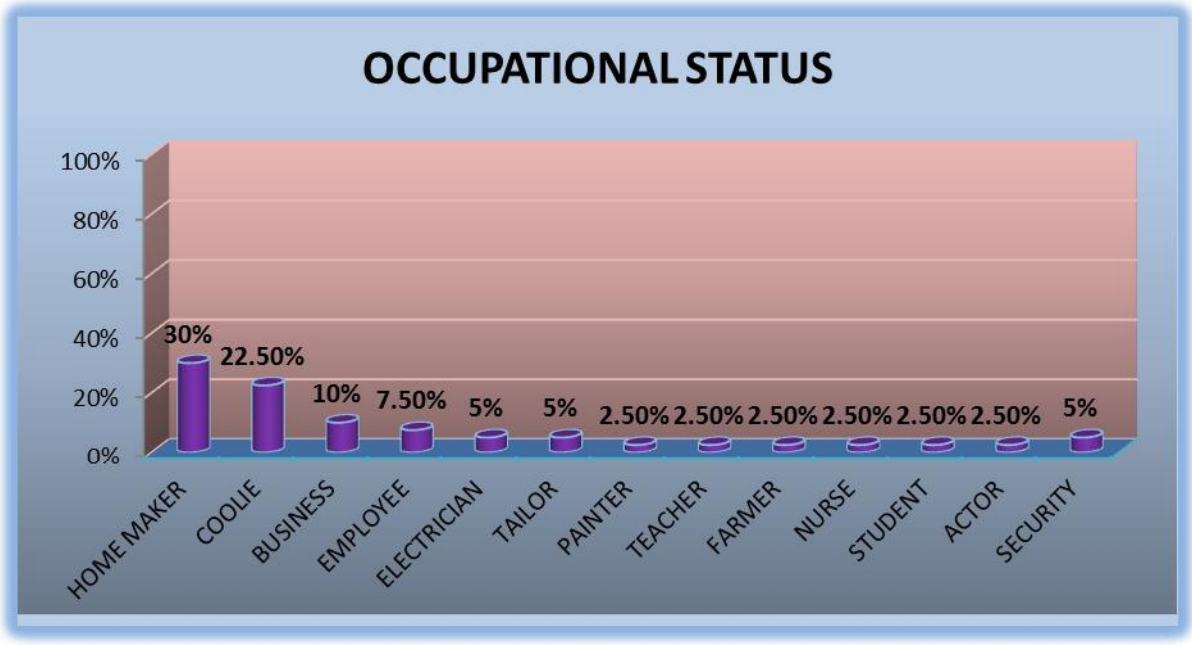


Observation

Out of 40 patients, 36 patients were reported in Pitha kaalam, the remaining 4 in Vatha kaalam and no patients in kaba kaalam.

4. OCCUPATIONAL STATUS

Sl. No	Nature of Work	No. of Cases	Percentage
1	Home Maker	12	30 %
2	Coolie	9	22.5%
3	Business	4	10.00 %
4	Employee	3	07.50 %
5	Tailor	2	5%
6	Electrician	2	05.00 %
7	Security	2	5 %
8	Teacher	1	2.5 %
9	Student	1	2.50 %
10	Farmer	1	2.5%
11	Actor	1	02.50 %
12	Nurse	1	2.5%
13	Painter	1	2.5%

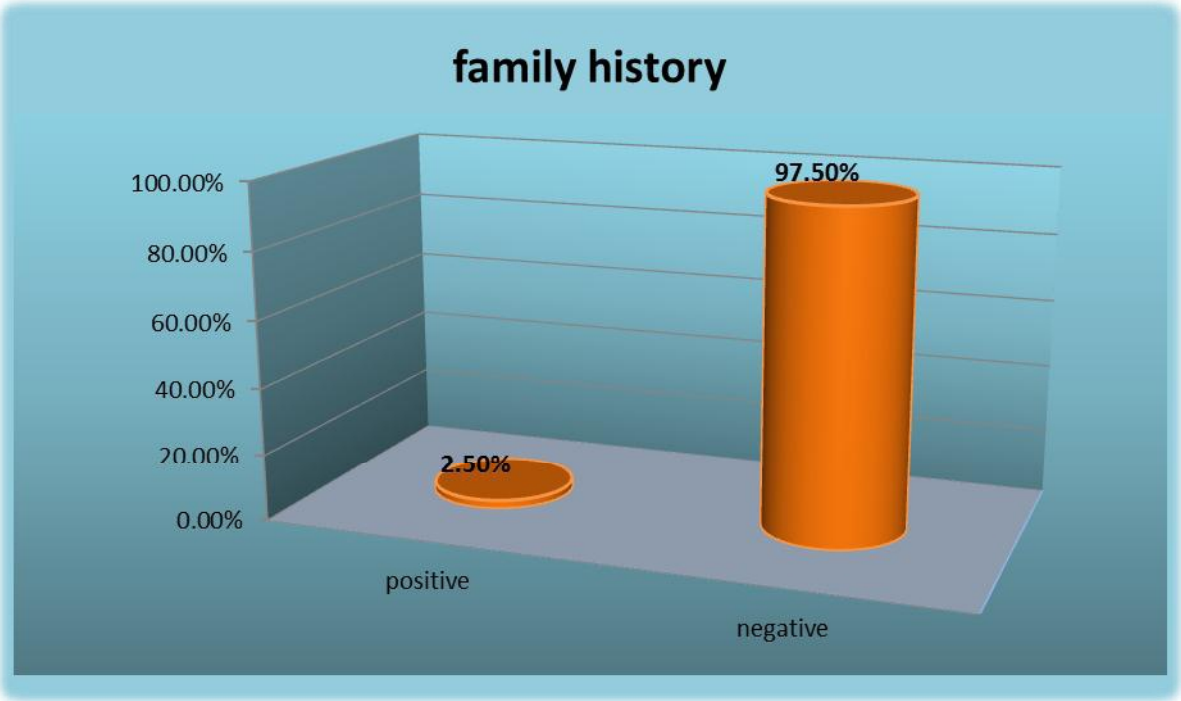


Observation

The majority of patients in this study were home makers.

5. **FAMILY HISTORY**

Sl. No	Criteria	No of Cases	Percentage
1	Family History (+ve)	1	2.5%
2	Family History (-ve)	39	97.5%

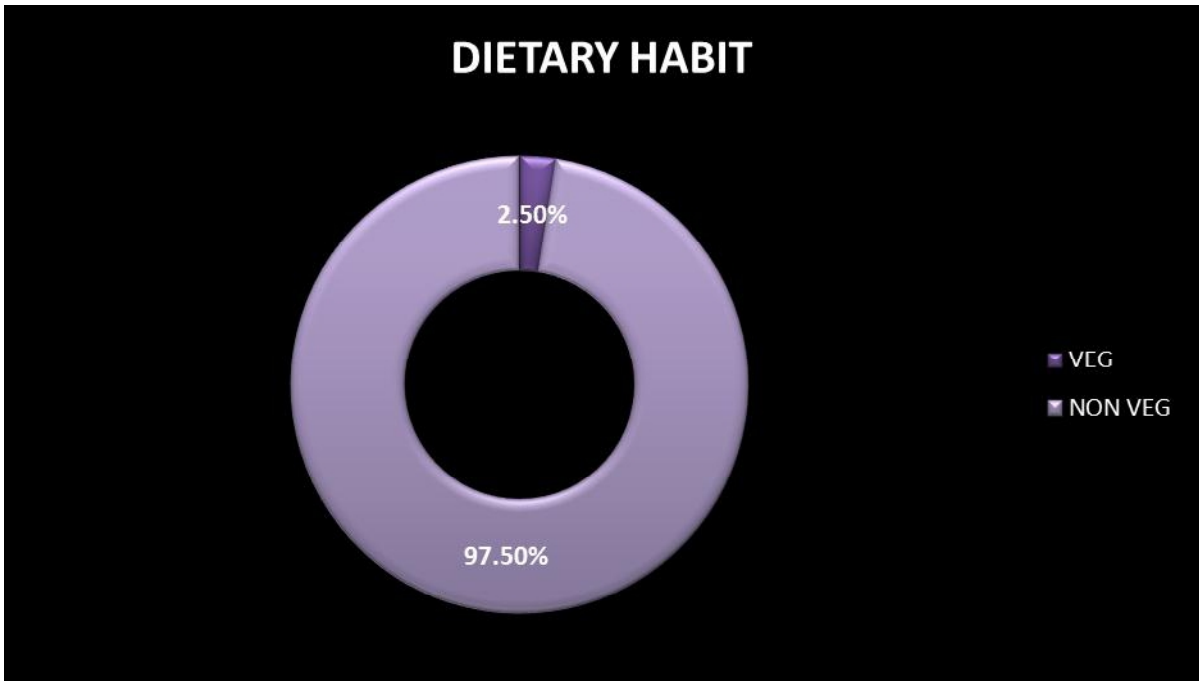


Observation

Among 40 patients (20 IP + 20 OP), 97.5% of the patients showed no family history, 2.5% showed positive family history.

6. DIETARY HABITS

Sl. No	Dietary Habits	No of Cases	Percentage
1	Vegetarian	2	5%
2	Non Vegetarian	38	95%

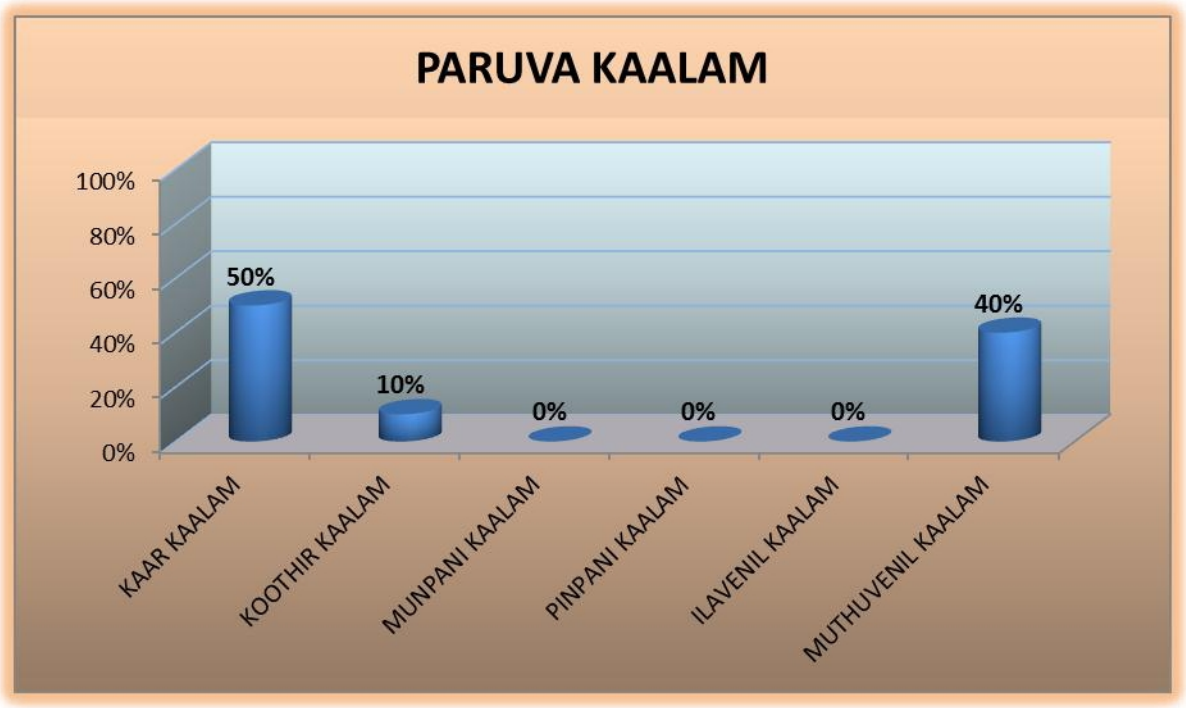


Observation

All the cases except two were non-vegetarians.

7. PARUVA KAALAM

Sl No.	Paruva Kaalam	No. of Cases	Percentage
1	Kaar kaalam (Aavani & Purattasi)	20	50%
2	Koothir Kaalam (Aippasi&Kaarthigai)	4	10%
3	Munpani Kaalam (Margazhi& Thai)	0	0
4	Pinpani Kaalam (Maasi&Panguni)	0	0
5	Elavenil Kaalam (Chithirai & Vaikasi)	0	0
6	Muthuvenil Kaalam (Aani&Aadi)	16	40%

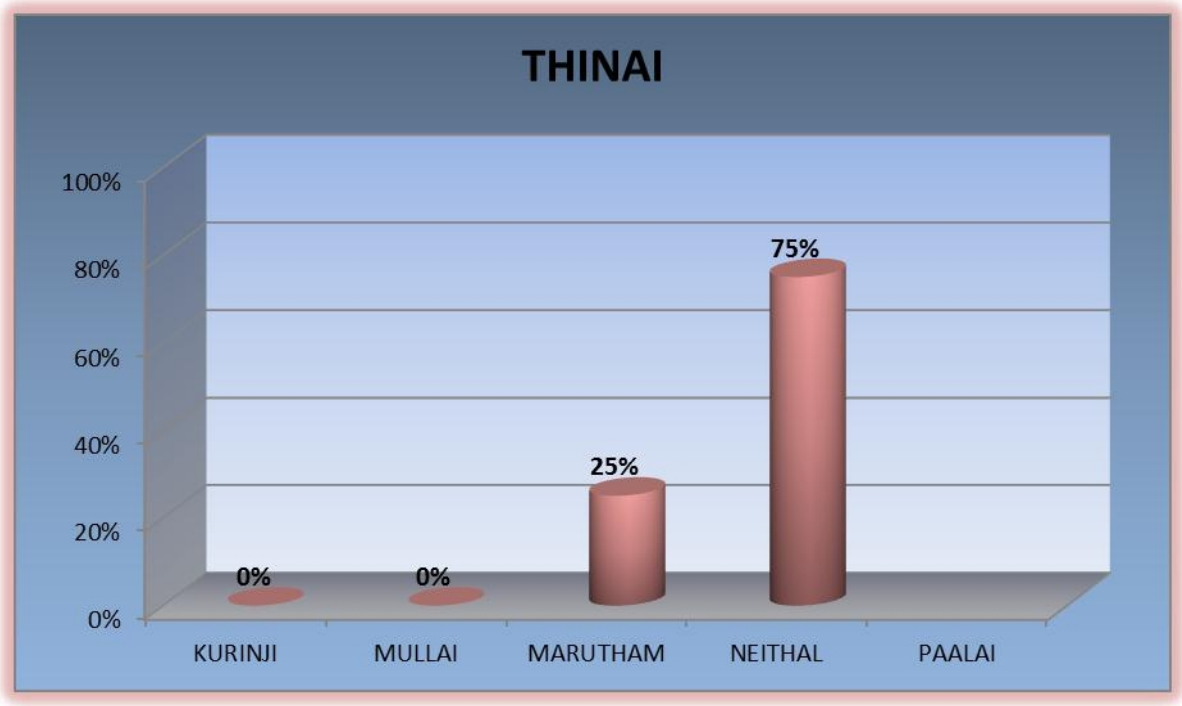


Observation

Among the 40 patients admitted for this study, the highest number of patients(50%) reported in Kaar Kaalam, 40% are reported in muthuvenil kaalam and 10% are reported in kootthir kaalam.

8. THINAI REFERENCE

Sl. No	Thinai	No. of Cases	Percentage
1	Kurinji (Hill Area)	0	0
2	Mullai (Forest Area)	0	0
3	Marutham (Fertile Land)	10	25%
4	Neithal (Coastal Area)	30	75%
5	Palai (Desert Land)	0	0

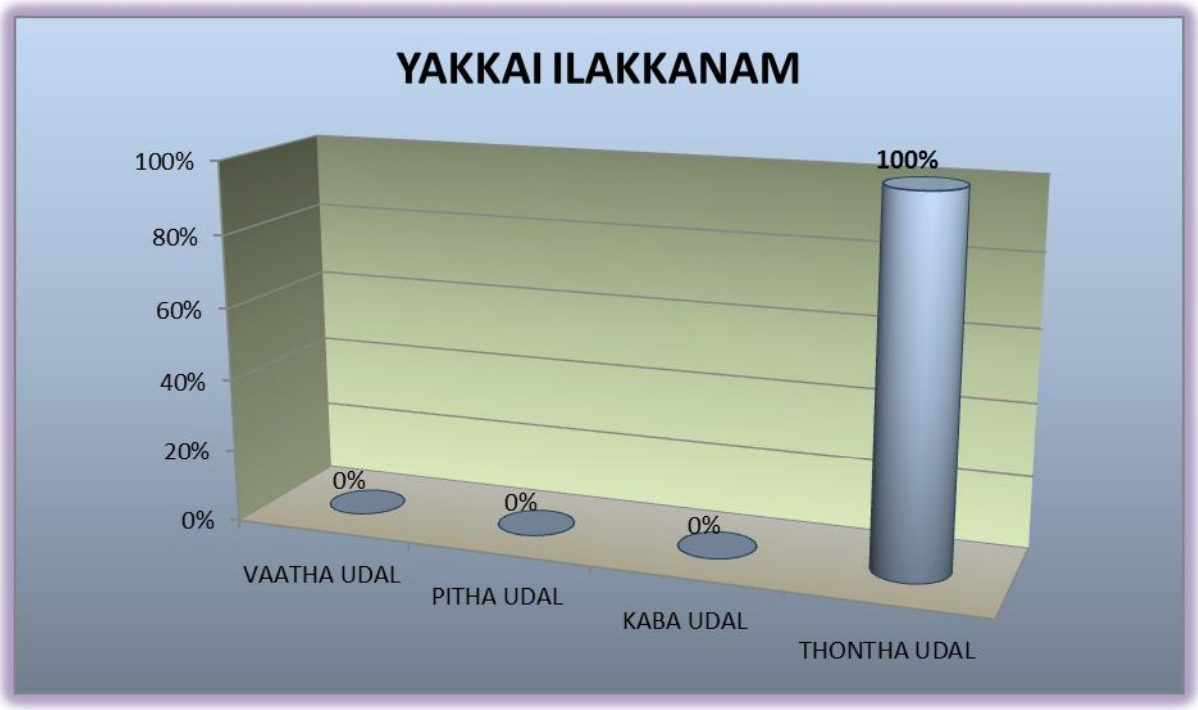


Observation

Among the 40 patients, 75% of the patients were from Neithal (Coastal Area) and the remaining 25% are from Marutham (Fertile Land).

9. YAAKAI ILAKKANAM

Sl. No	Yaakai Ilakkanam	No. of Cases	Percentage
1	VathaUdal	0	0.00%
2	PithaUdal	0	0.00%
3	KabaUdal	0	0.00%
4	ThonthaUdal	40	100.00%

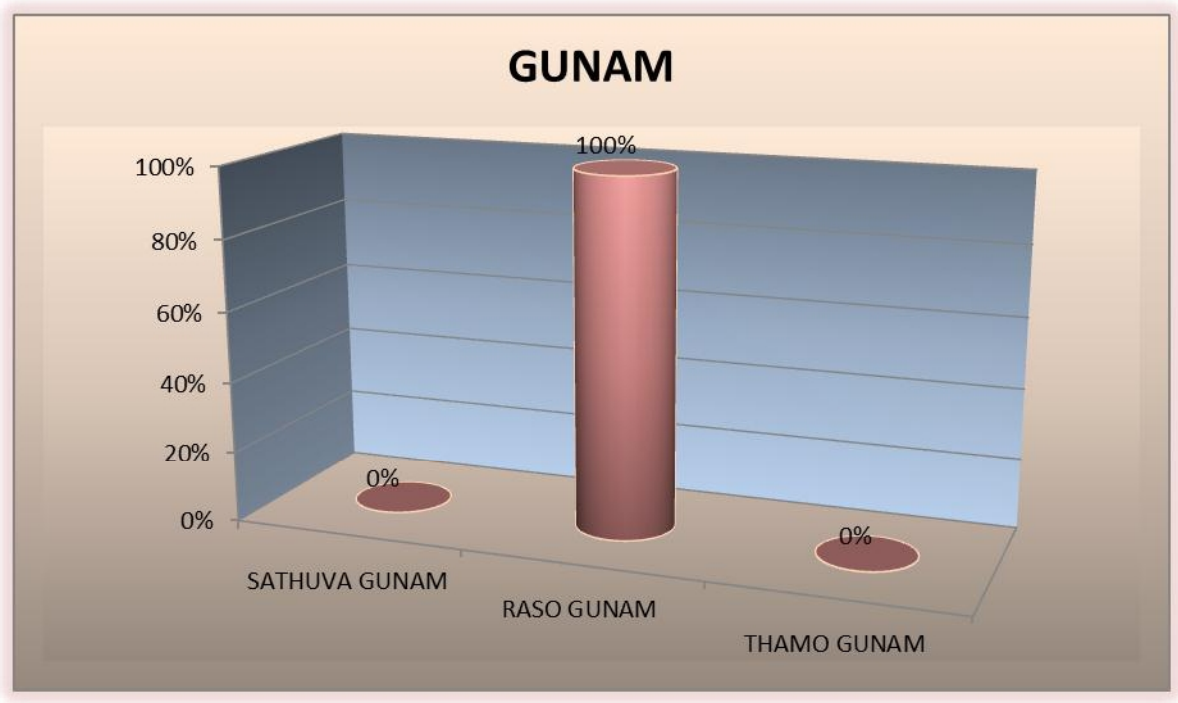


Observation

All the 40 patients (100%) had Thontha Udal

10. GUNAM (QUALITY AND CHARACTERS)

Sl. No	Gunam	No of Cases	Percentage
1	Satthuva Gunam	0	0%
2	Raso Gunam	40	100%
3	Thamo Gunam	0	0%

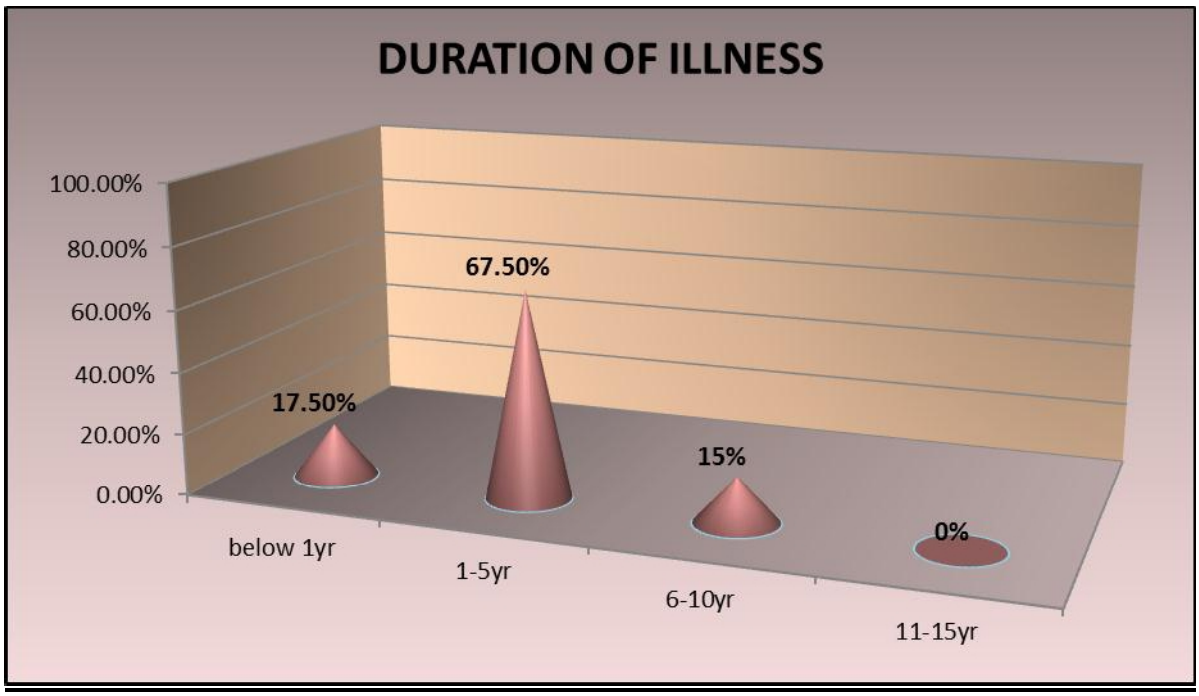


Observation

All the 40 patients had RajoGunam

12. DURATION OF ILLNESS

Sl. No	Duration of Illness	No of Cases	Percentage
1	> 1 Year	7	17.50 %
2	1-5 Years	27	67.50 %
3	6-10 Years	6	15 %
4	11-15 Years	0	0 %
5	16-20 Years	0	0 %



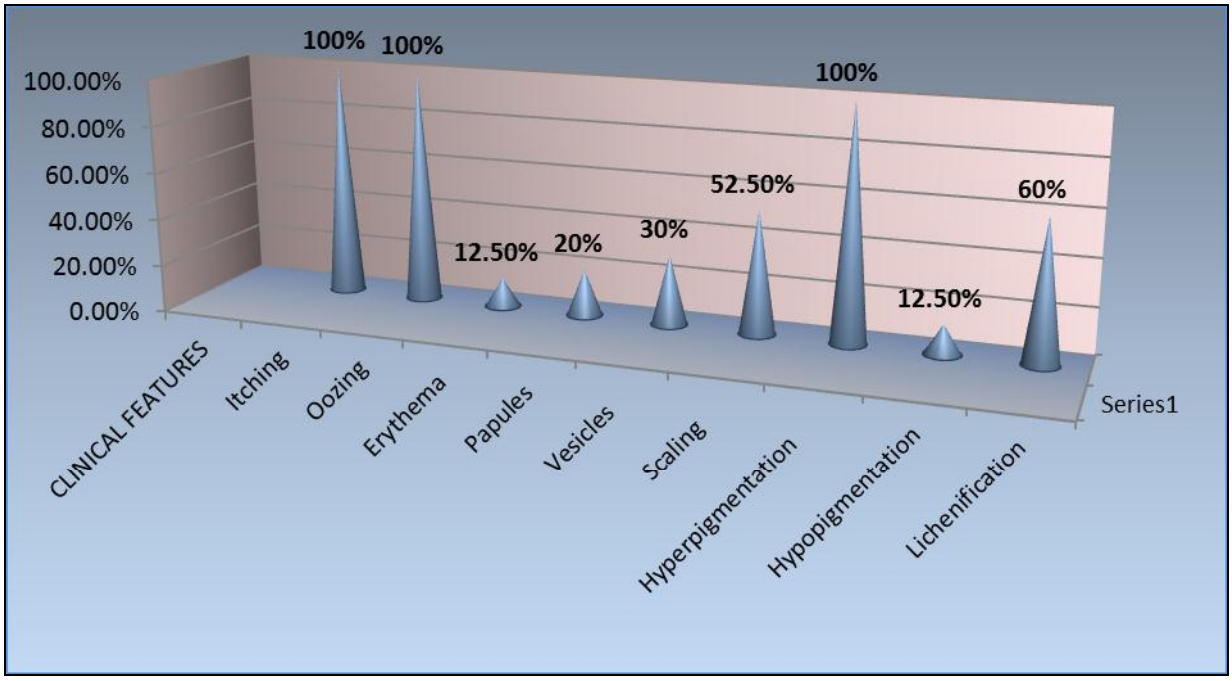
Observation:

Among the 40 patients the maximum number of patients (67.5%) have the duration of illness between 1-5 years.

13. CLINICAL FEATURES

Sl. No	Clinical Features	No of Cases	Percentage
1	Itching	40	100%
2	Vesicle formation	12	30%
3	Oozing	40	100%
4	Papules	8	20%
5	Scaling	21	52.5%
6	Erythema	5	12.5%
7	Hyperpigmentation	40	100%
8	Hypopigmentation	5	12.5%
9	Lichenification	24	60%

CLINICAL FEATURES



Observation: All the patients selected for the study have itching,oozing and hyperpigmentation, 52.5% of them had scaling,60% of them had lichenification,30% of them had vesicles,20% of them had papules,12.5% of them had erythema and hypopigmentation.

14. SITE OF LESION

Sl. No	Site of Lesion	No of Cases	Percentage
1	Both Upper Limb	2	5%
2	Both Lower Limb	21	52.5%
3	Upper limb & Lower limb	12	30%
4	Left lower limb	3	7.5%
5	Right lower limb	2	5%

Observation

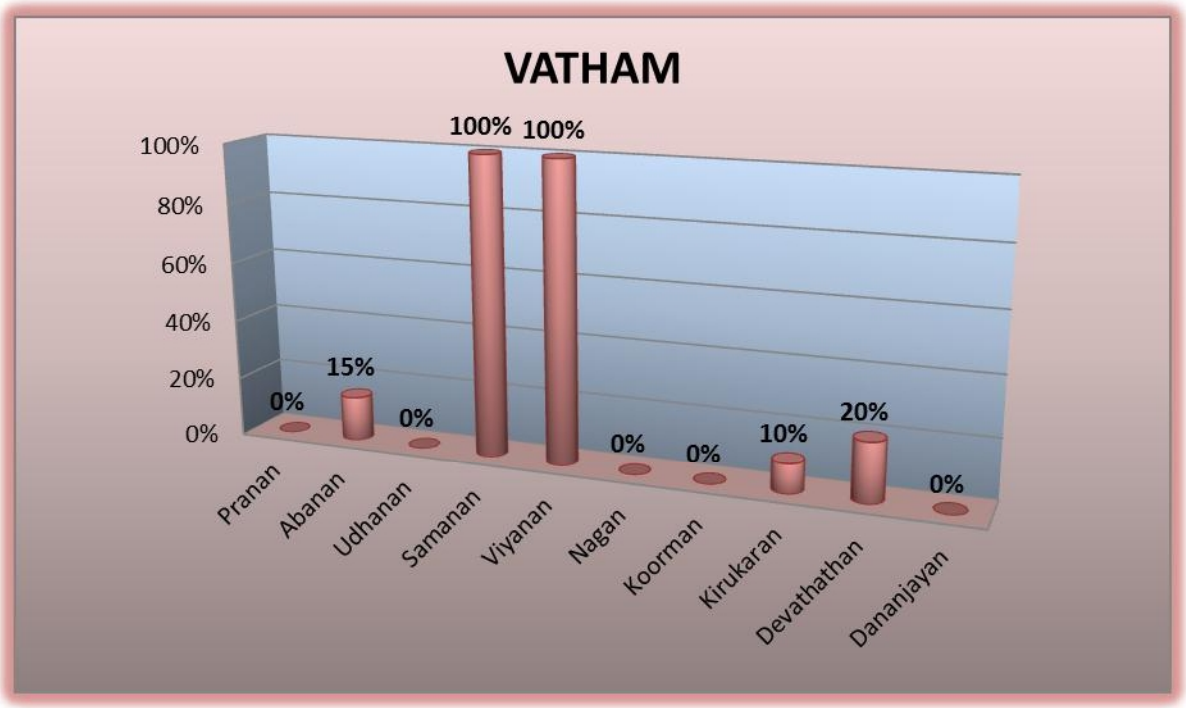
Among 40 patients , 5% had the lesion in both upperlimb, 52.5% had the lesion in both lower limb, 30% had the lesion both in upper limb and in lower limb and 5% had right lower limb,7.5% had left lower limb.

15.DISTRIBUTION OF UYIRTHATHUKKAL:

The derangement of Vaatham, Pitham and Kabam in Karappan is as follows

VAATHAM

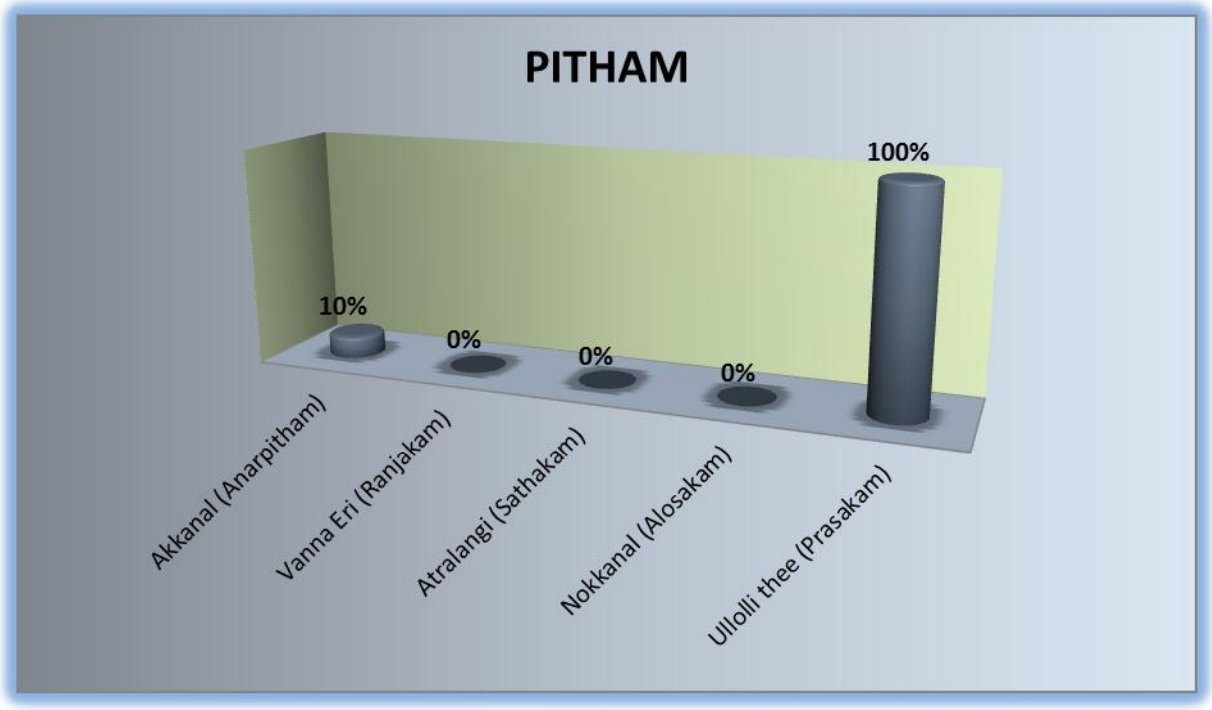
Sl. No	Classification of Vaatham	No of Cases	Percentage
1	Praanan	0	0.00%
2	Abaanan	6	25%
3	Udhaanan	0	0.00%
4	Samaanan	40	100.00%
5	Viyaanan	40	100.00%
6	Naagan	0	0.00%
7	Koorman	0	0.00%
8	Kirukaran	4	10%
9	Devathathan	8	20%
10	Dananjayan	0	0.00%



Observation : Samanan and Viyanan was found to be affected in all the 40 patients and devathathan was affected in 20% of patients, kirukaran was affected in 10% of patients, Abanan was affected in 15% of patients.

PITHAM

Sl. No	Classification of Pitham	No. of Cases	Percentage
1	Akkanal (Anarpitham)	4	10%
2	Vanna Eri (Ranjakam)	0	0.00%
3	Atralangi (Sathakam)	0	0.00%
4	Nokkanal (Alosakam)	0	0.00%
5	Ullolli thee (Prasakam)	40	100.00%

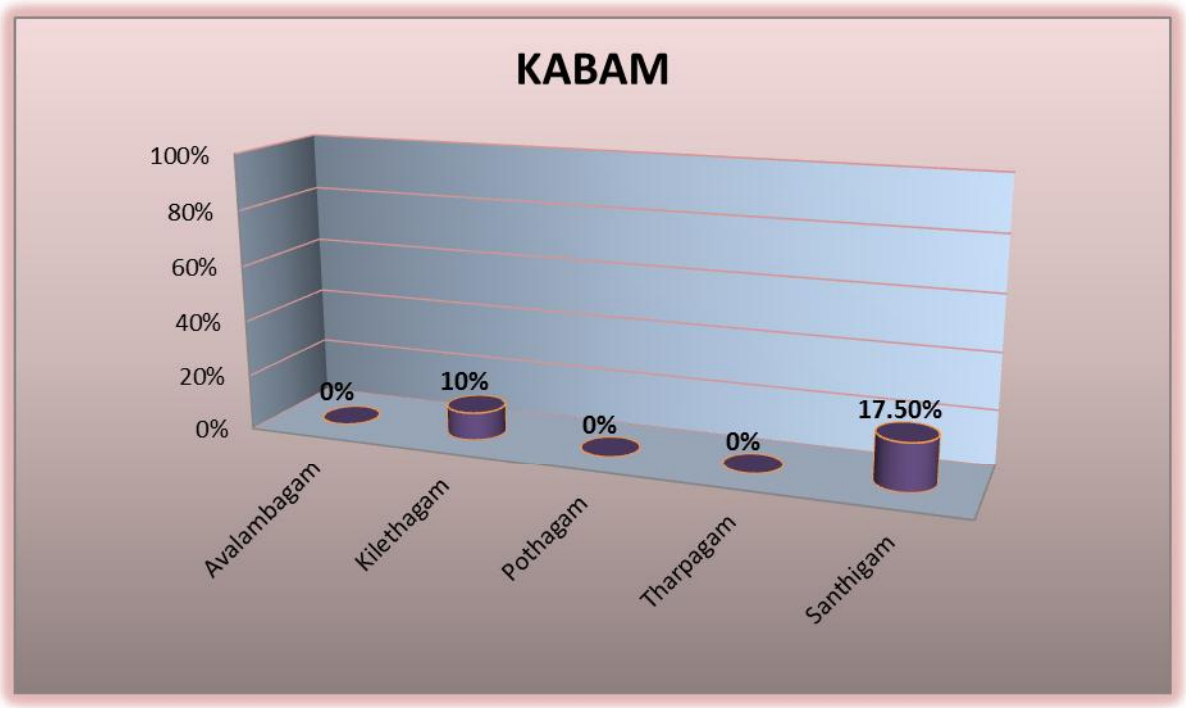


Observation

Prasakam was affected in all the cases. Anarpitham was found affected in 10 % of the patients.

KABAM

Sl. No	Classification of Kabam	No of Cases	Percentage
1	Avalambagam	0	0.00%
2	Kilethagam	4	10%
3	Pothagam	0	0.00%
4	Tharpagam	0	0.00%
5	Santhigam	7	17.5.%

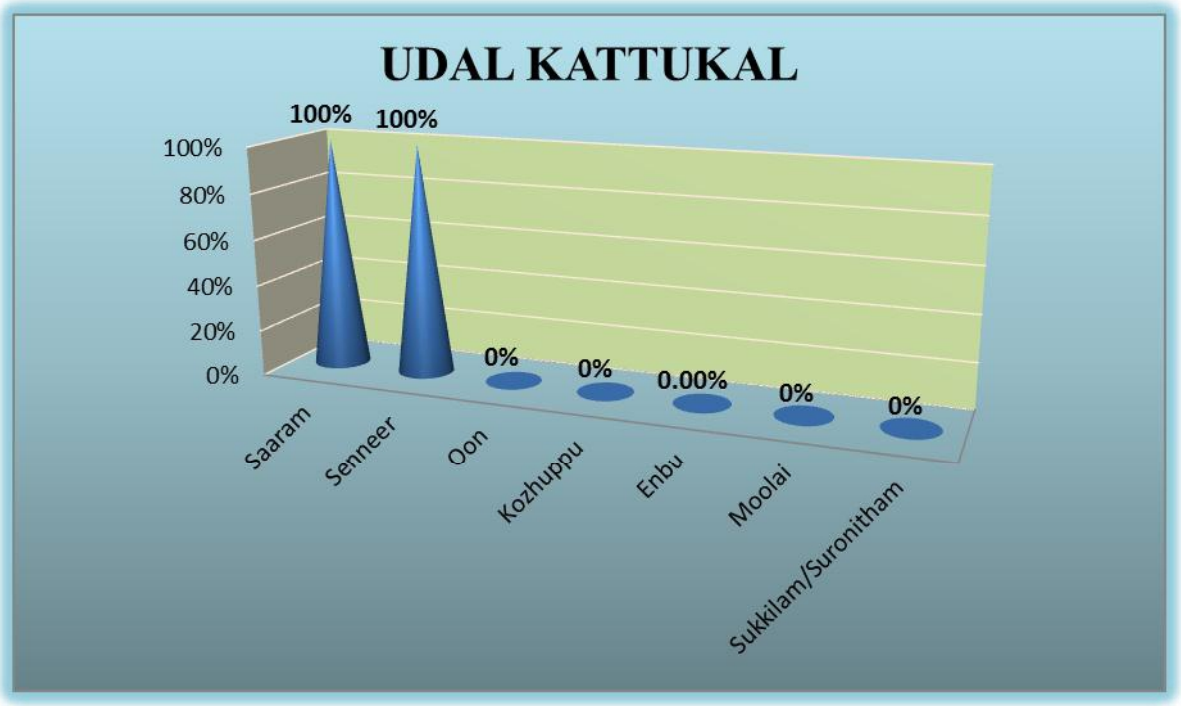


Observation :

In 10 % of the patients, Kilethagam was found to be affected. Santhigam was affected in 17.5% of the patients.

16. UDAL KATTUKAL

Sl. No	UdarKattugal	No of Cases	Percentage
1	Saaram	40	100%
2	Senneer	40	100%
3	Oon	0	0%
4	Kozhuppu	0	0%
5	Enbu	0	0%
6	Moolai	0	0%
7	Sukkilam/Suronitham	0	0 %

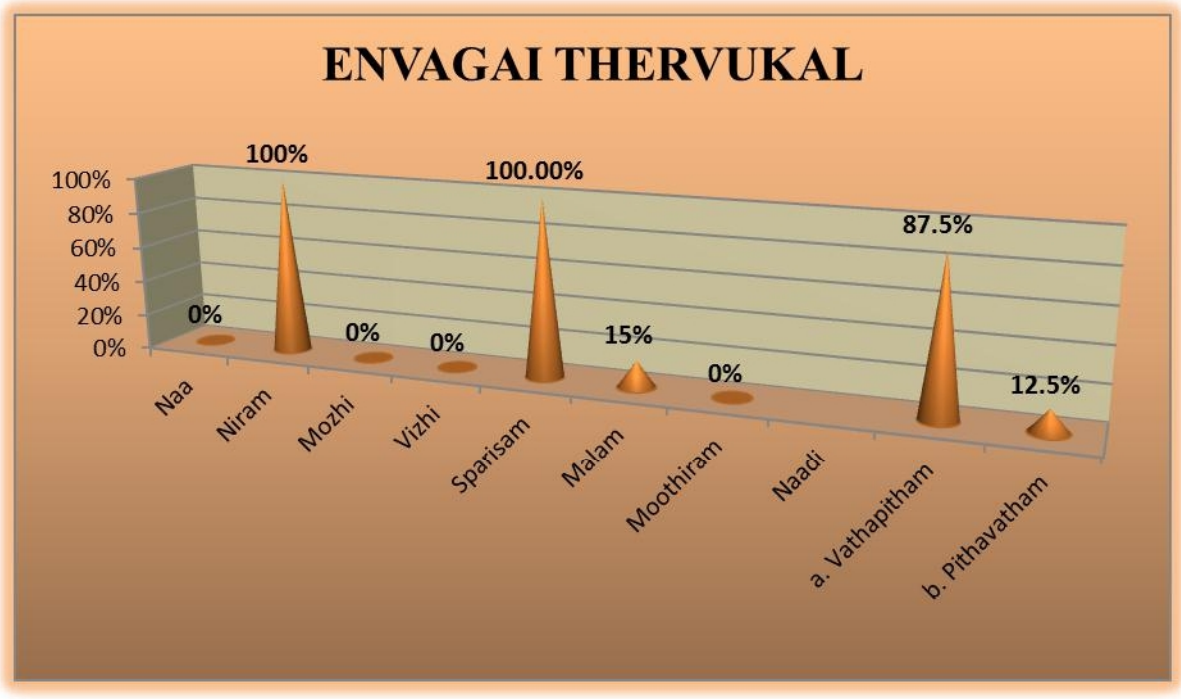


Observation:

Among 40 patients, Saaram , Senneer were affected in all the cases.

17. EN VAGAI THERVUKAL

Sl. No	En VagaiThervukal	No. of Cases	Percentage
1	Naa	0	0.00%
2	Niram	40	100.00%
3	Mozhi	0	0.00%
4	Vizhi	0	0.00%
5	Sparisam	40	100.00%
6	Malam	0	0.00%
7	Moothiram	0	0.00%
8	Naadi		
	a. Vathapitham	35	87.5%
	b. Pithavatham	5	12.5%



Observation:

In Envagai thervukal, Niram and Sparisam were found to be affected in all the 40 cases. The Naadinadai seen in Varatchi Karappan patients were Vathapitham 87.5 %, Pithavatham 12.5 %.

18. NEERKKURI, NEIKKURI REFERENCE

Sl. No	Type of Test	No. of Cases	Percentage
1	**Neerkkuri**: “ Niram” - straw yellow	40	100%
2	**Neikkuri**: Pitham-‘Aazhi pol paravin’ Kabam – ‘Muththothu Nitral’	22 18	55% 45%

OP CASES

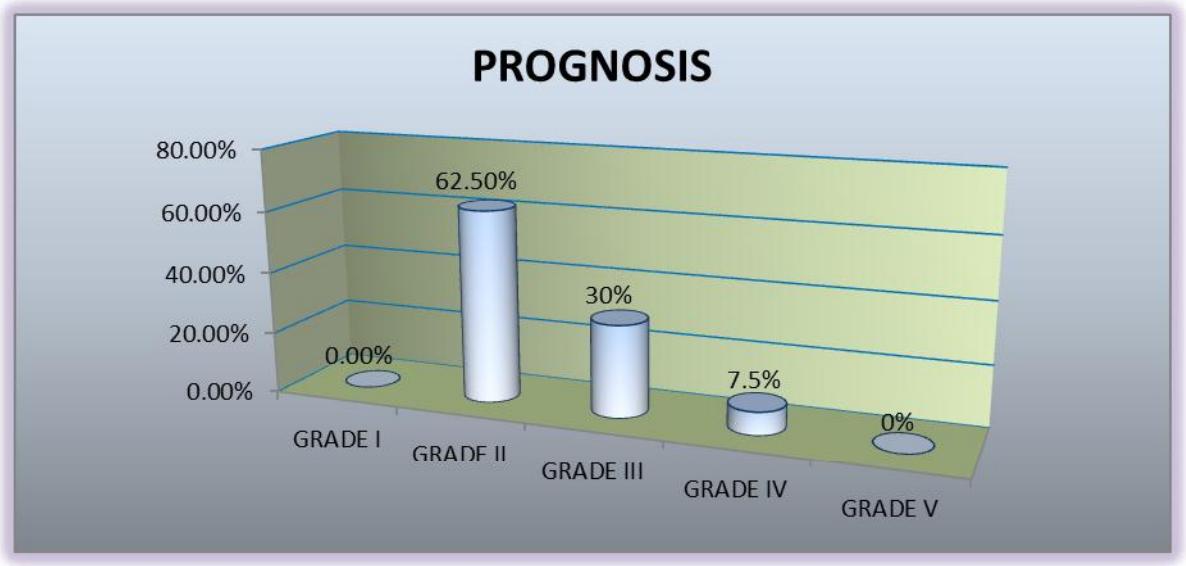
Sl No	OP No	Name	Age / Sex	DOA	DOI	DOD	No of Days Treated	Result
1	C87535	Mrs.U.Karpagaselvi	34/F	4.9.12	6 Mon	23.10.12	48	GRADE II
2	C85998	Mr.J.Gopala Krishnan	60/M	17.9.12	3 Yrs	5.11.12	48	GRADE II
3	C91000	Mrs.S.Shanthi	50/F	7.9.12	2 Yrs	26.10.12	48	GRADE II
4	A86946	Mr.B.Ariyankavoo	52/M	30.7.12	2 Yrs	17.9.12	48	GRADE II
5	C88973	Mr.T.Shankar	57/M	16.8.12	2 Yrs	4.10.12	48	GRADE II
6	C74451	Mr.G.John Kennady	38/M	7.8.12	5 Yrs	25.9.12	48	GRADE III
7	C39079	Mr.T.Deva Raj	55/M	4.7.12	5 Yrs	22.8.12	48	GRADE II
8	C90870	Mrs.S.Tamilarasi	52/F	20.8.12	5 Yrs	8.10.12	48	GRADE III
9	C83380	Miss.N.Sangeetha	20/F	4.8.12	5 Yrs	22.9.12	48	GRADE II
10	C90868	Mrs.A.Kadhija Begam	30/F	25.8.12	10 Yrs	13.10.12	48	GRADE II
11	C87724	Mr.V.Thiruthuvanathan	46/M	16.8.12	6 Mon	4.10.12	48	GRADE II
12	AC8305	Mr.Mohamed Iqbal	48/M	2.8.12	1 Mon	20.9.12	48	GRADE II
13	A28604	Mrs.Karpagam	34/F	23.7.12	6 Yrs	10.9.12	48	GRADE II
14	C83076	Mr.K.Yogeshwaran	48/M	21.7.12	6 Yrs	8.9.12	48	GRADE II
15	C91261	Mr.J.Saravanan	38/M	18.8.12	5 Yrs	6.10.12	48	GRADE III
16	C76751	Mr.G.Meiazhagar	51/M	18.8.12	1.5 Yrs	6.10.12	48	GRADE III
17	C85591	Mr.K.Venkatachalam	30/M	25.7.12	1 Yrs	12.9.12	48	GRADE IV
18	C86010	Mr.Parthiban	22/M	26.7.12	1 Yrs	13.9.12	48	GRADE IV
19	C90770	Mrs.S.Rani	44/F	16.8.12	4 Yrs	4.10.12	48	GRADE II
20	C74448	Mr.S.R.Krishnamoorthy	55/M	21.7.12	3 Yrs	8.9.12	48	GRADE III

IP CASES

Sl No	IP No	Name	Age/ Sex	DOA	DOI	DOD	No of Days Treated	Result
1	5060	Mr.Chelladurai	60/M	24.8.12	1yrs	19.10.12	48	GRADE II
2	4108	Mrs.Mageshwari	56/F	24.8.12	3yrs	12.10.12	48	GRADE III
3	5099	Mr.G.Kannan	38/M	4.9.12	3 Mon	23.10.12	48	GRADE II
4	5119	Mr.A.Anwar Hussain	55/M	11.9.12	6 Yrs	30.10.12	48	GRADE II
5	554	Mrs.R.Sivagami	29/F	24.9.12	1 Yrs	12.11.12	48	GRADE II
6	4154	Mrs.P.Padmavathi	48/F	5.9.12	2 Yrs	24.10.12	48	GRADE II
7	5142	Mr.M.JayaKumar	47/M	17.9.12	3 Mon	28.10.12	48	GRADE III
8	4961	Mr.M.HariKrishnan	55/M	24.07.12	6 Mon	11.12.12	48	GRADE II
9	5036	Mr.Rajendren	44/M	17.8.12	2 Yrs	5.10.12	48	GRADE II
10	4270	Mrs.P.Jayagandhi	45/F	13.10.12	2 Mon	1.12.12	48	GRADE II
11	4256	Mrs.K.Angammal	48/F	09.10.12	1 Yrs	27.11.12	48	GRADE II
12	4281	Mrs.A.Krishnaveni	51/F	22.10.12	2 Yrs	10.12.12	48	GRADE III
13	4282	Mrs.S.Savithri	46/F	23.10.12	2 Yrs	11.12.12	48	GRADE III
14	4135	Mrs.Jayalakshmi	47/F	29.8.12	8 Yrs	24.10.12	48	GRADE III
15	3981	Mrs.Sowndari	50/F	20.7.12	1 Yrs	14.9.12	48	GRADE II
16	3992	Mrs.Sundari	60/F	23.7.12	5 Yrs	10.9.12	48	GRADE III
17	4073	Mrs.Nirmala	42/F	13.8.12	3 Yrs	8.8.12	48	GRADE III
18	5030	Mr.SivaKumar	41/M	15.8.12	10 Yrs	3.10.12	48	GRADE II
19	5098	Mr.Mani	60/M	3.9.12	2 Yrs	22.10.12	48	GRADE II
20	5186	Mr.Ganesan	46/M	16.8.12	3 Yrs	4.10.12	48	GRADE IV

19.RESULTS

Sl. No	Results	No of Cases	Percentage
1	GRADE I - Turned to normal skin (good).	-	-
2	GRADE II - Reduction of Hyper pigmentation (moderate)	25	62.5%
3	GRADE III - Reduction of itching, oozing and edema (mild).	12	30%
4	GRADE IV - Remains the same (no further lesions formed).	3	7.5%
5	GRADE V - New lesions appearing.	-	-



Observation:

Among the 40 patients, 62.5% shown moderate improvement, 30% shown mild improvement and 7.5% shown no improvement.

IP CASES – TRIAL DRUG ALONG WITH YOGAM

	IP No	Name	Age/ Sex	Result
1	5060	Mr.Chelladurai	60/M	GRADE II
2	3992	Mrs.Sundari	60/F	GRADE III
3	5099	Mr.G.Kannan	38/M	GRADE II
4	5119	Mr.A.Anwar Hussain	55/M	GRADE II
5	554	Mrs.R.Sivagami	29/F	GRADE II
6	4154	Mrs.P.Padmavathi	48/F	GRADE II
7	5186	Mr.Ganesan	46/M	GRADE IV
8	4073	Mrs.Nirmala	42/F	GRADE III
9	4135	Mrs.Jayalakshmi	47/F	GRADE III
10	3981	Mrs.Sowndari	50/F	GRADE II

DISCUSSION:

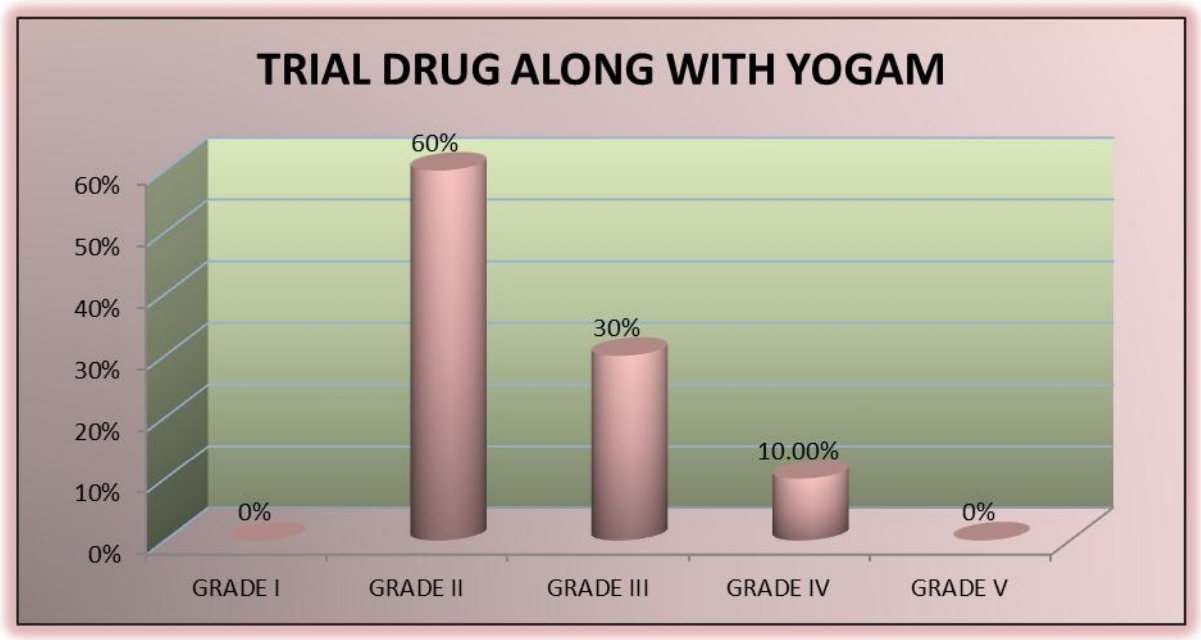
Hence Yogam treatment along with the trial drugs is effective in the treatment of Varatchi Karappan when compared to the treatment with the trial drugs alone.

RESULT:

Yogam treatment proved to be effective in reducing the Stress, Sleeplessness and Clinical Symptoms of Varatchi Karappan in this clinical trial.

IP CASES – TRIAL DRUG ALONG WITH YOGAM

Sl. No	Results	No of Cases	Percentage
1	GRADE I- Turned to normal skin (good).	-	-
2	GRADE II- Reduction of Hyper pigmentation (moderate)	6	60%
3	GRADE III- Reduction of itching, oozing and edema (mild).	3	30%
4	GRADE IV- Remains the same (no further lesions formed).	1	10%
5	GRADE V- New lesions appearing.	-	-



Observation:

Among the 10 patients, 60% shown moderate improvement, 30% shown mild improvement and 10% showed no improvement.

BEFORE TREATMENT

Mr.J.Gopalakrishnan

AFTER TREATMENT

BEFORE TREATMENT

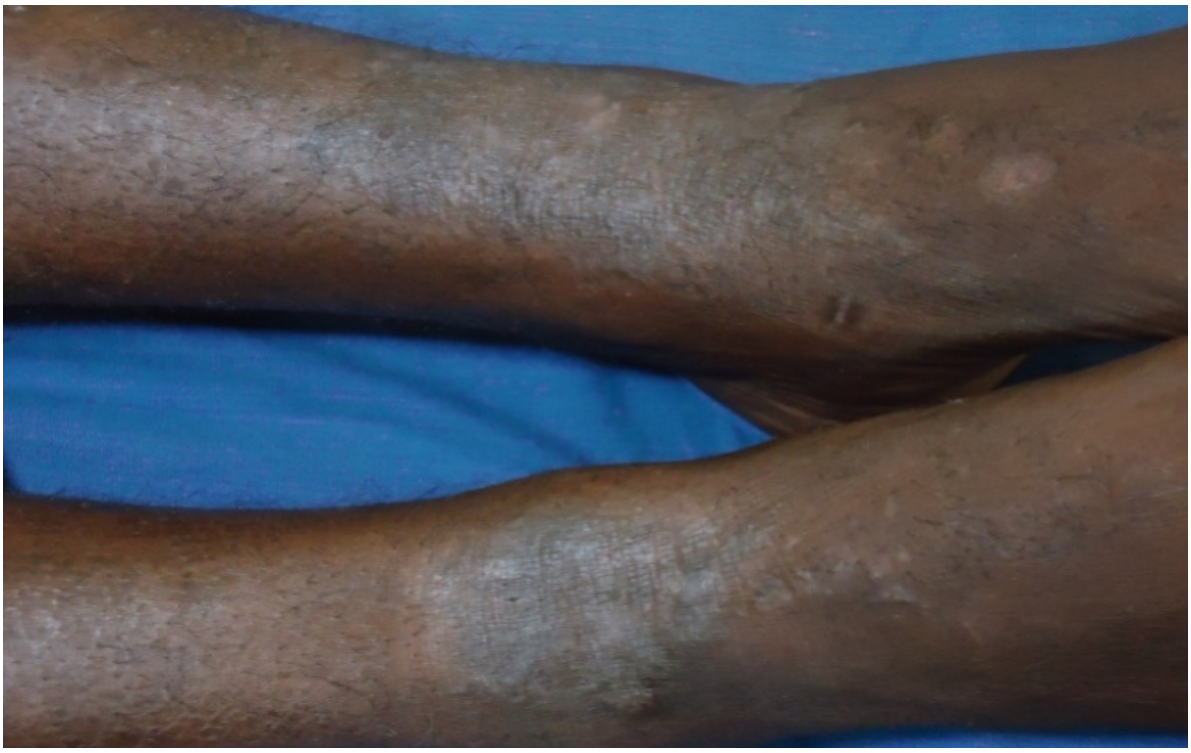
Mrs.Sowndari

AFTER TREATMENT

BEFORE TREATMENT

Mr.B.Ariyankavoo

AFTER TREATMENT



BEFORE TREATMENT

Mr.Chelladurai

AFTER TREATMENT

OUT-PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Op .no	Name	Hb gm%		TC Cells/ Cumm		RBC million Cells/ cu.mm		ESR/hr	
			BT	AT	BT	AT	BT	AT	BT	AT
1	C87535	Mrs.U.Karpagaselvi	12.2	10.1	9400	8000	4.1	4	32	6
2	C85998	Mr.J.Gopala Krishnan	14.8	13	7300	7000	4.7	4.7	6	14
3	C91000	Mrs.S.Shanthi	11.5	10.2	7900	11500	4.5	4.6	10	10
4	A86946	Mr.B.Ariyankavoo	15.8	14.5	12800	6200	5.5	5.2	10	10
5	C88973	Mr.T.Shankar	15.1	12.5	5800	7800	5.9	5.5	6	20
6	C74451	Mr.G.John Kennady	14.5	14.9	4600	5000	5.3	4.8	6	14
7	C39079	Mr.T.Deva Raj	13.2	13.4	8900	6700	4.9	4.8	26	28
8	C90870	Mrs.S.Tamilarasi	12.3	10.6	6800	5200	4.2	4.3	16	26
9	C83380	Miss.N.Sangeetha	13.5	13.6	6700	5300	4.5	4.6	4	12
10	C90868	Mrs.A.Kadhija Begam	11.1	8.9	5600	5100	4.1	4	8	10
11	C87724	Mr.V.Thiruthuvanathan	16.4	14.3	7500	8400	5.4	5.4	4	4
12	AC8305	Mr.Mohamed Iqbal	12.4	15.3	8500	10100	5.1	5	6	10
13	A28604	Mrs.Karpagam	14.1	12.1	7000	6800	5.1	4.2	24	16
14	C83076	Mr.K.Yogeshwaran	15.5	15.3	7300	6900	5.2	5.1	6	4
15	C91261	Mr.J.Saravanan	15.6	13.8	8400	7700	5.2	5.3	4	4
16	C76751	Mr.G.Meiazhagar	13.6	11.5	7000	6500	4.7	4.4	12	8
17	C85591	Mr.K.Venkatachalam	15.3	14.6	9,400	8,700	4.8	4.5	22	10
18	C86010	Mr.Parthiban	15.1	14.7	8400	5700	5.3	4.6	10	6
19	C90770	Mrs.S.Rani	13.5	13.7	5300	5700	4.9	5.3	8	4
20	C74448	Mr.S.R.Krishnamoorthy	14.1	14.7	4400	5700	4.9	5.1	8	16

OUT-PATIENT'S BLOOD INVESTIGATION CHART

Sl. no	Op .no	Poly morphs		Lympho cytes		Mono cytes		Eosino phils		Basophils		Blood Sugar(F)		Blood sugar (PP)	
		BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	C87535	65	63	30	32			5	5			91	103	105	118
2	C85998	50	50	45	44			5	6			108	106	124	121
3	C91000	62	60	33	35	5	5					106	95	118	108
4	A86946	61	58	29	37	1		9	5			87	101	139	123
5	C88973	62	72	33	24			5	4			104	118	107	123
6	C74451	60	64	33	30	2		5	6			87	101	101	120
7	C39079	38	54	39	35			22	11	1		71	87	93	116
8	C90870	64	62	33	33			3	5			96	119	116	131
9	C83380	55	45	42	50			3	5			85	92	118	111
10	C90868	54	60	38	36	2	6	4				103	105	117	124
11	C87724	65	65	31	30			4	5			99	99	106	122
12	AC8305	68	60	24	34	1		7	6			104	104	145	125
13	A28604	61	65	34	30			5	5			99	92	112	111
14	C83076	46	33	45	59	2	1	7	7			104	88	116	125
15	C91261	60	65	33	28			7	7			101	99	111	120
16	C76751	63	64	32	33			5	3			90	118	148	142
17	C85591	53	65	23	33	1		3	2			92	98	101	123
18	C86010	53	58	40	35		5	7	2			80	92	96	107
19	C90770	50	63	42	30	1		7	7			103	98	117	108
20	C74448	59	63	34	31	2		5	6			83	94	112	127

OUT-PATIENT'S RENAL FUNCTION TEST CHART

Sl.no	Op .no	Name	Urea mg/dl		Creatinine mg/dl		Uric Acid mg/dl	
			BT	AT	BT	AT	BT	AT
1	C87535	Mrs.U.Karpagaselvi	18	22	0.6	0.7	2.2	3.9
2	C85998	Mr.J.Gopala Krishnan	16	19	0.5	0.6	8.8	6.2
3	C91000	Mrs.S.Shanthi	17	15	0.5	0.5	5	3
4	A86946	Mr.B.Ariyankavoo	24	19	0.7	0.5	5.2	3.2
5	C88973	Mr.T.Shankar	14	20	0.4	0.6	5	5
6	C74451	Mr.G.John Kennady	21	17	0.6	0.6	5.2	4.4
7	C39079	Mr.T.Deva Raj	20	16	0.6	0.5	4.7	3.2
8	C90870	Mrs.S.Tamilarasi	18	25	0.5	0.7	5	5.2
9	C83380	Miss.N.Sangeetha	14	15	0.4	0.5	4.7	3.1
10	C90868	Mrs.A.Kadhija Begam	18	20	0.9	0.7	4	3
11	C87724	Mr.V.Thiruthuvanathan	17	20	0.5	0.6	8.2	5.3
12	AC8305	Mr.Mohamed Iqbal	28	15	0.8	0.6	5	3.7
13	A28604	Mrs.Karpagam	16	21	0.5	0.6	3.3	3.1
14	C83076	Mr.K.Yogeshwaran	17	19	0.6	0.5	5.7	4.7
15	C91261	Mr.J.Saravanan	33	29	0.8	0.8	6	5.4
16	C76751	Mr.G.Meiazhagar	20	17	0.6	0.5	7.4	5
17	C85591	Mr.K.Venkatachalam	20	18	0.6	0.5	5	4
18	C86010	Mr.Parthiban	17	20	0.5	0.7	5.4	4.1
19	C90770	Mrs.S.Rani	14	28	0.4	0.7	5.9	4.3
20	C74448	Mr.S.R.Krishnamoorthy	17	24	0.5	0.6	4.5	5

OUT-PATIENT'S LIVER FUNCTION TEST CHART

Sl. no	Op .no	Total Bilirubin mg/dl		Direct Bilirubin mg/dl		Indirect Bilirubin mg/dl		SGOT IU		SGPT IU		Alk.phos mg/dl	
		BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	C87535	0.5	0.5	0.2	0.2	0.3	0.3	20	10	21	11	150	135
2	C85998	0.8	0.6	0.3	0.2	0.5	0.4	11	18	12	21	178	149
3	C91000	0.4	0.5	0.2	0.2	0.2	0.3	23	43	25	46	154	231
4	A86946	0.5	0.7	0.2	0.3	0.3	0.4	26	12	27	15	196	147
5	C88973	0.5	0.6	0.2	0.2	0.3	0.4	36	20	28	22	175	185
6	C74451	1	0.4	0.4	0.2	0.6	0.2	17	12	18	13	146	216
7	C39079	0.5	0.8	0.2	0.3	0.3	0.5	11	16	12	18	145	196
8	C90870	0.5	0.7	0.2	0.3	0.3	0.4	13	25	15	27	142	191
9	C83380	0.6	0.7	0.2	0.3	0.4	0.4	29	16	30	18	179	176
10	C90868	0.5	0.5	0.2	0.2	0.3	0.3	12	13	14	15	155	189
11	C87724	0.5	0.6	0.2	0.2	0.3	0.4	27	26	30	28	18	187
12	AC8305	0.7	0.6	0.4	0.2	0.6	0.4	18	19	26	20	215	243
13	A28604	0.9	1.2	0.5	0.6	0.4	0.6	37	24	32	30	187	170
14	C83076	0.5	0.6	0.4	0.2	0.7	0.4	28	30	30	32	215	190
15	C91261	0.5	0.4	0.2	0.2	0.3	0.2	28	10	29	11	271	177
16	C76751	0.5	0.7	0.2	0.3	0.3	0.4	27	19	28	21	156	183
17	C85591	0.6	0.5	0.3	0.6	0.5	0.4	24	31	18	25	184	210
18	C86010	0.5	0.4	0.3	0.3	0.2	0.1	35	27	24	32	187	210
19	C90770	0.3	0.5	0.2	0.3	0.1	0.2	41	35	51	47	272	187
20	C74448	0.7	0.6	0.4	0.5	0.3	0.2	27	32	36	33	164	214

OUT-PATIENT'S LIPID PROFILE TEST CHART

Sl. no	Op .no	Name	HDL (mg/dl)		LDL (mg/dl)		VLDL (mg/dl)		Total Cholesterol (mg/dl)		Triglycerides (mg/dl)	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	C87535	Mrs.U.Karpagaselvi	22	33	88	91	10	12	120	182	50	59
2	C85998	Mr.J.Gopala Krishnan	25	35	182	96	32	30	182	208	162	150
3	C91000	Mrs.S.Shanthi	32	36	106	120	47	23	136	243	238	115
4	A86946	Mr.B.Ariyankavoo	31	36	109	102	30	20	177	160	153	102
5	C88973	Mr.T.Shankar	40	43	162	117	14	15	195	234	73	76
6	C74451	Mr.G.John Kennady	33	30	130	74	23	18	181	90	117	90
7	C39079	Mr.T.Deva Raj	30	34	82	116	17	19	180	176	89	97
8	C90870	Mrs.S.Tamilarasi	45	45	132	115	27	57	199	187	137	150
9	C83380	Miss.N.Sangeetha	26	41	78	70	16	14	149	136	84	71
10	C90868	Mrs.A.Kadhija Begam	35	34	116	82	27	17	170	175	137	86
11	C87724	Mr.V.Thiruthuvanathan	22	32	82	76	12	16	111	142	60	81
12	AC8305	Mr.Mohamed Iqbal	29	40	145	86	41	31	193	153	205	157
13	A28604	Mrs.Karpagam	30	44	102	106	28	19	140	213	140	96
14	C83076	Mr.K.Yogeshwaran	36	32	96	80	24	21	157	160	121	108
15	C91261	Mr.J.Saravanan	35	36	152	124	31	30	207	227	158	151
16	C76751	Mr.G.Meiazhagar	36	31	86	69	14	12	136	132	70	62
17	C85591	Mr.K.Venkatachalam	29	35	80	110	25	28	149	153	125	117
18	C86010	Mr.Parthiban	22	31	45	70	17	15	100	93	88	92
19	C90770	Mrs.S.Rani	44	35	240	184	25	18	215	193	128	116
20	C74448	Mr.S.R.Krishnamoorthy	31	45	125	117	17	30	173	197	86	90

OUT-PATIENT'S URINE INVESTIGATION CHART

Sl.no	op .no	Name	Albumin		Sugar		Deposits	
			BT	AT	BT	AT	BT	AT
1	C87535	Mrs.U.Karpagaselvi	Nil	Nil	Nil	Nil	1-2Pus , 1-2 Epi	1-2Pus , 2-4 Epi
2	C85998	Mr.J.Gopala Krishnan	Nil	Nil	Nil	Nil	2-3Pus, 2-3 Epi	2-4Pus, 2-4 Epi
3	C91000	Mrs.S.Shanthi	Nil	Nil	Nil	Nil	2-3Pus, 1-2 Epi	8-10Pus, 10-15 Epi
4	A86946	Mr.B.Ariyankavoo	Nil	Nil	Nil	Nil	2-3Pus, 2-3 Epi	2-3Pus, 1-2 Epi
5	C88973	Mr.T.Shankar	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	1-2Pus, 2-4 Epi
6	C74451	Mr.G.John Kennady	Nil	Nil	Nil	Nil	2-4Pus, 2-4 Epi	2-4Pus, 2-4 Epi
7	C39079	Mr.T.Deva Raj	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-2Pus, 2-4 Epi
8	C90870	Mrs.S.Tamilarasi	Nil	Nil	Nil	Nil	2-4Pus, 1-2 Epi	1-2Pus, 2-4 Epi
9	C83380	Miss.N.Sangeetha	Nil	Nil	Nil	Nil	2-4Pus, 2-4 Epi	4-5Pus, 3-4 Epi
10	C90868	Mrs.A.Kadhija Begam	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	2-4Pus, 2-4 Epi
11	C87724	Mr.V.Thiruthuvanathan	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	2-4Pus, 2-4 Epi
12	AC8305	Mr.Mohamed Iqbal	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-3Pus, 3-4 Epi
13	A28604	Mrs.Karpagam	Nil	Nil	Nil	Nil	2-6Pus, 2-6 Epi	10-12Pus, Plenty of Epi cells
14	C83076	Mr.K.Yogeshwaran	Nil	Nil	Nil	Nil	2-6Pus, 2-6Epi	2-4 Pus, 1-2 Epi
15	C91261	Mr.J.Saravanan	Nil	Nil	Nil	Nil	1-2Pus, 1-2Epi	1-2Pus, 2-4 Epi
16	C76751	Mr.G.Meiazhagar	Nil	Nil	Nil	Nil	1-2Pus, 1-2Epi	2-4 Pus, 2-4 Epi
17	C85591	Mr.K.Venkatachalam	Nil	Nil	Nil	Nil	1-2Pus, 2-4Epi	1-3Pus, 2-4 Epi
18	C86010	Mr.Parthiban	Nil	Nil	Nil	Nil	2-4 Pus, 2-4 Epi	1-2 Pus, 1-2 Epi
19	C90770	Mrs.S.Rani	Nil	Nil	Nil	Nil	1-2 Pus, 1-2 Epi	2-4 Pus, 1-3 Epi
20	C74448	Mr.S.R.Krishnamoorthy	Nil	Nil	Nil	Nil	1-2 Pus, 1-2 Epi	1-3Pus, 2-4 Epi

IN-PATIENT'S BLOOD INVESTIGATION CHART

Sl.no	Ip .no	Name	Hb gm%		TC Cells/ Cu.mm		RBC million Cells/ cu.mm		ESR/hr mm	
			BT	AT	BT	AT	BT	AT	BT	AT
1	5060	Mr.Chelladurai	12	11.9	5300	4600	4.9	4.5	18	20
2	4108	Mrs.Mageshwari	14.5	11.7	7100	7200	5	4.8	10	10
3	5099	Mr.G.Kannan	14.2	13.7	10600	9500	4.7	4.9	8	4
4	5119	Mr.A.Anwar Hussain	12.5	10.6	9600	6500	4.9	5	26	12
5	4215	Mrs.R.Sivagami	11.5	10.5	7100	7700	4.4	4.7	70	6
6	4154	Mrs.P.Padmavathi	11.5	10	7200	6800	4	4.5	94	22
7	5142	Mr.M.JayaKumar	13.4	12	7900	6300	4.6	4.2	20	8
8	4961	Mr.M.HariKrishnan	15.6	14.2	11700	9200	4.6	4.2	4	6
9	5036	Mr.Rajendren	11.2	12	6500	6900	4.2	4	22	8
10	4270	Mrs.P.Jayagandhi	11.6	10.5	7900	10600	4.3	3.1	18	22
11	4256	Mrs.K.Angammal	14	11.3	9400	8600	4.8	4.7	8	4
12	4281	Mrs.A.Krishnaveni	9.3	9.7	8200	6200	4	4.5	12	56
13	4282	Mrs.S.Savithri	10	9.2	6700	7200	4.3	3.8	10	24
14	4135	Mrs.Jayalakshmi	11.8	10.5	9900	8800	4.8	4.7	10	4
15	3981	Mrs.Sowndari	13.8	13.2	9800	9600	4.3	4.2	28	16
16	3992	Mrs.Sundari	13	13.9	8200	9900	4.2	4.7	20	16
17	4073	Mrs.Nirmala	12.4	11.1	11400	11000	4.2	4.1	40	52
18	5030	Mr.SivaKumar	15.4	13	10100	8300	4.7	4.5	22	10
19	5098	Mr.Mani	14.6	11	7100	5200	5	6	6	12
20	5186	Mr.Ganesan	11.4	10.5	6000	8100	2.6	2.7	36	8

IP-PATIENT'S BLOOD INVESTIGATION CHART

Sl. no	Ip .no	Poly morphs		Lympho cytes		Mono cytes		Eosino phils		Basophils		Blood Sugar(F)		Blood sugar (PP)	
		BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	5060	60	64	33	27			6	9			116	103	127	118
2	4108	55	55	46	32	4	13					109	116	138	124
3	5099	49	72	32	23	4		15	5			94	86	109	102
4	5119	72	59	23	36			5	5			81	94	106	119
5	4215	70	75	25	32			5	3			76	84	134	103
6	4154	72	64	24	31	4			5			117	119	132	137
7	5142	62	74	33	31	5	1		4			91	72	142	118
8	4961	69	72	25	23	1	5	5				73	78	93	102
9	5036	62	72	33	24	5	4					82	87	117	123
10	4270	57	48	32	43			11	9			95	84	108	102
11	4256	74	71	22	24			4	5			88	98	140	112
12	4281	74	62	22	32			4	6			91	94	115	110
13	4282	46	59	42	36		1	12	4			101	86	120	102
14	4135	67	52	30	41			3	7			87	98	100	139
15	3981	59	58	37	37			4	5			81	77	98	126
16	3992	61	68	30	27			9	5			81	96	98	103
17	4073	55	59	32	36			3	5			104	109	122	118
18	5030	70	60	24	34	6	6					104	104	121	119
19	5098	63	50	32	44	5	6					106	94	120	112
20	5186	60	70	35	27			5	3			119	94	167	142

IN-PATIENT'S RENAL FUNCTION TEST CHART

Sl.no	Ip .no	Name	Urea mg/dl		Creatinine mg/dl		Uric Acid mg/dl	
			BT	AT	BT	AT	BT	AT
1	5060	Mr.Chelladurai	15	16	0.4	0.5	4.8	4.3
2	4108	Mrs.Mageshwari	14	14	0.4	0.4	5.5	4
3	5099	Mr.G.Kannan	15	20	0.4	0.6	3.7	3.5
4	5119	Mr.A.Anwar Hussain	29	17	0.6	0.6	4.3	6.2
5	4215	Mrs.R.Sivagami	15	14	0.4	0.4	5	3.9
6	4154	Mrs.P.Padmavathi	33	28	0.9	0.8	5.4	5
7	5142	Mr.M.JayaKumar	22	28	0.6	0.5	4.7	5
8	4961	Mr.M.HariKrishnan	14	17	0.5	0.8	5	4.3
9	5036	Mr.Rajendren	31	25	0.7	0.6	5	4.5
10	4270	Mrs.P.Jayagandhi	21	18	0.6	0.7	5	3
11	4256	Mrs.K.Angammal	19	14	0.5	0.5	3.6	3
12	4281	Mrs.A.Krishnaveni	14	18	0.5	0.6	3	3
13	4282	Mrs.S.Savithri	15	17	0.5	0.7	4.1	3.2
14	4135	Mrs.Jayalakshmi	16	19	0.5	0.6	4.2	3
15	3981	Mrs.Sowndari	20	23	0.7	0.7	6.5	5
16	3992	Mrs.Sundari	30	43	0.9	1	4.9	4.3
17	4073	Mrs.Nirmala	14	14	0.4	0.5	4	3.9
18	5030	Mr.SivaKumar	16	15	0.5	0.5	4.6	5.2
19	5098	Mr.Mani	17	15	0.5	0.5	6.2	5
20	5186	Mr.Ganesan	17	17	0.6	0.6	5	4.6

IN-PATIENT'S LIVER FUNCTION TEST CHART

Sl. no	Ip .no	Name	Total Bilirubin mg/dl		Direct Bilirubin mg/dl		Indirect Bilirubin mg/dl		SGOT IU		SGPT IU		Alk.phos mg/dl	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	5060	Mr.Chelladurai	15	16	0.4	0.2	0.4	0.4	14	17	15	19	180	166
2	4108	Mrs.Mageshwari	14	14	0.4	0.3	0.2	0.3	20	16	21	18	186	159
3	5099	Mr.G.Kannan	15	20	0.4	0.3	0.3	0.2	17	19	20	27	188	194
4	5119	Mr.A.Anwar Hussain	29	17	0.6	0.3	0.3	0.4	15	12	18	14	170	163
5	4215	Mrs.R.Sivagami	15	14	0.4	0.2	0.3	0.3	13	15	16	17	167	151
6	4154	Mrs.P.Padmavathi	33	28	0.9	0.4	0.2	0.5	10	19	12	25	136	154
7	5142	Mr.M.JayaKumar	22	28	0.6	0.3	0.4	0.4	12	18	14	25	166	143
8	4961	Mr.M.HariKrishnan	14	17	0.5	0.4	0.3	0.2	24	16	31	24	168	142
9	5036	Mr.Rajendren	31	25	0.7	0.2	0.6	0.3	15	21	17	28	140	136
10	4270	Mrs.P.Jayagandhi	21	18	0.6	0.2	0.2	0.4	17	28	19	30	175	153
11	4256	Mrs.K.Angammal	19	14	0.5	0.2	0.2	0.4	10	15	11	17	125	187
12	4281	Mrs.A.Krishnaveni	14	18	0.5	0.2	0.5	0.3	18	14	20	17	175	149
13	4282	Mrs.S.Savithri	15	17	0.5	0.3	0.3	0.4	2	19	31	23	197	173
14	4135	Mrs.Jayalakshmi	16	19	0.5	0.2	0.2	0.4	18	20	35	22	164	181
15	3981	Mrs.Sowndari	20	23	0.7	0.2	0.5	0.3	43	45	36	40	230	251
16	3992	Mrs.Sundari	30	43	0.9	0.2	0.3	0.4	20	14	32	16	185	160
17	4073	Mrs.Nirmala	14	14	0.4	0.2	0.1	0.3	26	12	28	13	163	145
18	5030	Mr.SivaKumar	16	15	0.5	0.3	0.4	0.4	23	13	24	15	138	199
19	5098	Mr.Mani	17	15	0.5	0.3	0.3	0.6	22	16	23	18	142	161
20	5186	Mr.Ganesan	17	17	0.6	1	0.6	1.3	11	16	14	18	172	166

IN-PATIENT'S LIPID PROFILE TEST CHART

Sl.no	Ip .no	Name	HDL (mg/dl)		LDL (mg/dl)		VLDL (mg/dl)		Total Cholesterol(mg/dl)		Triglycerides (mg/dl)	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	5060	Mr.Chelladurai	45	37	128	93	19	16	193	195	96	84
2	4108	Mrs.Mageshwari	34	44	115	110	38	32	183	232	191	161
3	5099	Mr.G.Kannan	30	33	112	117	23	26	143	162	117	103
4	5119	Mr.A.Anwar Hussain	30	45	76	101	23	31	120	217	117	158
5	4215	Mrs.R.Sivagami	32	30	80	70	26	33	127	125	133	166
6	4154	Mrs.P.Padmavathi	36	32	101	96	43	38	152	164	217	194
7	5142	Mr.M.JayaKumar	33	35	96	98	33	31	163	170	167	152
8	4961	Mr.M.HariKrishnan	27	32	90	82	48	34	139	142	242	134
9	5036	Mr.Rajendren	31	35	86	92	24	32	145	160	120	117
10	4270	Mrs.P.Jayagandhi	31	26	68	55	13	17	126	115	68	88
11	4256	Mrs.K.Angammal	36	35	132	81	24	14	191	151	120	69
12	4281	Mrs.A.Krishnaveni	39	38	96	101	17	30	190	207	88	151
13	4282	Mrs.S.Savithri	36	35	92	83	31	35	194	174	158	177
14	4135	Mrs.Jayalakshmi	35	36	112	88	28	14	184	176	123	72
15	3981	Mrs.Sowndari	40	37	144	94	99	75	199	176	495	375
16	3992	Mrs.Sundari	30	50	98	105	26	23	208	206	130	116
17	4073	Mrs.Nirmala	36	36	123	87	51	82	207	187	259	184
18	5030	Mr.SivaKumar	34	35	215	96	17	71	158	209	86	356
19	5098	Mr.Mani	39	40	127	101	40	27	186	213	203	136
20	5186	Mr.Ganesan	30	30	72	75	35	61	150	140	503	306

IN-PATIENT'S URINE INVESTIGATION CHART

Sl.no	Ip .no	Name	Albumin		Sugar		Deposits	
			BT	AT	BT	AT	BT	AT
1	5060	Mr.Chelladurai	Nil	Nil	Nil	Nil	1-2Pus,1-2Epi	1-2Pus, 2-4Epi
2	4108	Mrs.Mageshwari	Nil	Nil	Nil	Nil	4-5Pus,1-2Epi	2-4Pus,2-4Epi
3	5099	Mr.G.Kannan	Nil	Nil	Nil	Nil	1- 2Pus, 1-2 Epi	1-2Pus, 2-4 Epi
4	5119	Mr.A.Anwar Hussain	Nil	Nil	Nil	Nil	1-2Pus, 2-3 Epi	1-2Pus, 1-2 Epi
5	4215	Mrs.R.Sivagami	Nil	Nil	Nil	Nil	2-3 Pus,1-2 Epi	1-2Pus, 1-2 Epi
6	4154	Mrs.P.Padmavathi	Nil	Nil	Nil	Nil	2-4Pus, 1-2 Epi	1-2Pus, 1-3 Epi
7	5142	Mr.M.JayaKumar	Nil	Nil	Nil	Nil	2-3Pus, 2-3 Epi	1-2Pus, 1-2 Epi
8	4961	Mr.M.HariKrishnan	Nil	Nil	Nil	Nil	2-3Pus 2-3 Epi	1-3 Pus 1-2 Epi
9	5036	Mr.Rajendren	Nil	Nil	Nil	Nil	1-2Pus, 1-2Epi	1-2Pus, 1-3 Epi
10	4270	Mrs.P.Jayagandhi	Nil	Nil	Nil	Nil	2-4Pus, 2-4Epi	1-2Pus, 1-2Epi
11	4256	Mrs.K.Angammal	Nil	Nil	Nil	Nil	1-2Pus,1-2Epi	2-3Pus,1-2Epi
12	4281	Mrs.A.Krishnaveni	Nil	Nil	Nil	Nil	2-4Pus,3-6Epi	2-4Pus,1-2Epi
13	4282	Mrs.S.Savithri	Nil	Nil	Nil	Nil	1-2Pus,2-4Epi	2-4Pus,2-4Epi
14	4135	Mrs.Jayalakshmi	Nil	Nil	Nil	Nil	1-2Pus,2-3Epi	2-4Pus,2-4Epi
15	3981	Mrs.Sowndari	Nil	Nil	Nil	Nil	3-6Pus, 4-8 Epi	6-8Pus, 4-5 Epi
16	3992	Mrs.Sundari	Nil	Nil	Nil	Nil	1-2Pus, 2-4 Epi	3-5Pus, 3-5 Epi
17	4073	Mrs.Nirmala	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	1-2Pus, 2-4 Epi
18	5030	Mr.SivaKumar	Nil	Nil	Nil	Nil	1-2Pus, 1-2 Epi	1-2Pus, 2-4 Epi
19	5098	Mr.Mani	Nil	Nil	Nil	Nil	1-2Pus, 1-3 Epi	2-4Pus, 2-4 Epi
20	5186	Mr.Ganesan	Nil	Nil	Nil	Nil	2-3Pus, 1-2 Epi	1-2Pus, 1-2 Epi

NATIONAL INSTITUTE OF SIDDHA

ACUTE TOXICITY STUDY OF KUKKILAATHI CHOORANAM

[WHO guidelines, 1993]

Principle:

Acute toxicity was carried out in Swiss albino mice with a single exposure of 10 times of the recommended therapeutic dose of test compound the study duration will be 14 days.

Animal species	**:**	Swiss albino mice
Age / Weight / Size	**:**	6 weeks. Mice-20-25 gms.
Gender	**:**	Both male and female
Number of Animals	**:**	Mice: 10
Acclimatization Period	**:**	7 Days
Clinical dose	**:**	3.0 gms\day

S.No	Group	No of mice
1	Vehicle control (saline)	10 (5 male, 5 female)
2	Toxic dose 10 X therapeutic dose (0.054gms)	10 (5 male, 5 female)

Test Animals

Test animals were obtained from the animal laboratory of the King institute, Chennai and stocked at National institute of siddha, Chennai. All the animals were kept under standard environmental condition (27+ or – 2 degree c).The animals had free access to water and standard pellet diet (Sai Durga foods pvt.ltd, Bangalore).The principles of laboratory animal care were followed and the Institutional ethical committee approved the use of animals and the study design. **(1248/ac/09/CPCSEA/4-24/ 2011).**

Route of administration:

Oral route was selected, because it is the normal route of clinical administration.

Test substance and vehicle

Kukkilaathi chooranam was Brown in colour. The test substance was insoluble in water, in order to obtain and ensure the uniformity in drug distribution the drug was dissolved by aqueous Tween 80 solution (10%).

Administration of doses

Kukkilaathi chooranam was suspended in aqueous Tween 80 solution (10%), with uniform mixing and it was administered to the groups in a single oral dose. The control groups received equal volume of the vehicle. The animals were weighed before giving the drug. The dose level was calculated according to body weight and surface area. Since the clinical dose was 3.0gms\day it was converted to animal dose (0.054gms) and then administered. The principle of laboratory animal care was followed.

Observations

Observations were made and recorded systematically and continuously observed as per the guideline after substance administration. The animals were monitored for behavioural parameters like

1. Awareness
    - Alertness
    - Visual placing
    - Stereotype
    - Passivity
2. Mood
    - Grooming
    - Restlessness
    - Irritability
    - Fearfulness
3. Motor activity
    - Spontaneous activity
    - Reactivity
    - Touch response
    - Pain response.

Animals were observed for body weight and mortality for 14 days. If animals died during the period of study, the animals were sacrificed. At the end of the 14^{th} day all animals were sacrificed and necropsy was done.

Body Weight

Individual weight of animals was determined before the test substance was administered and daily for 14 days. Weight changes were calculated and recorded. At the end of the test, serving animals were weighed and sacrificed.

Results:

At the dose 0.054gms/animal did not exhibit any mortality in mice.

No behavior changes were noted for the first 4 hours and for the next 24 hours and throughout the study period of 14 days. No weight reduction was noted before and after the acute study duration. Reflexes were found to be normal before and after the study. All other observations were found to be normal before and after the study. In Necropsy, the organs of the animal such as, Liver, Heart, Lungs, Pancreas, Spleen, Stomach, Intestine, Kidney, Urinary bladder, Uterus all appeared normal.

BIO - CHEMICAL ANALYSIS OF KUKKILAATHI CHOORANAM ANALYSED AT NATIONAL INSTITUTE OF SIDDHA

S. No	EXPERIMENT	OBSERVATION	INFERENCE
1.	Physical Appearance of sample	Brown in colour	
2.	**Solubility:** a. A little (500mg) of the sample is shaken well with distilled water. b. A little (500mg) of the sample is shaken well with con. HCl/ Con. H_2So_4.	Sparingly soluble	**Presence of Silicate**
3.	**Action of Heat:** A small amount (500mg) of the sample is taken in a dry test tube and heated gently at first and then strong.	White fumes not evolved	Absence of Carbonate
4.	**Flame Test:** A small amount (500mg) of the sample is made into a paste with con. HCl in a watch glass and introduced into non-luminous part of the Bunsen flame.	No Bluish green flameappeared.	Absence of Copper
5.	**Ash Test:** A filter paper is soaked into a mixture of sample and dil. cobalt nitrate solution and introduced into the Bunsen flame and ignited	No Yellow coloured flame	Absence of Sodium

Preparation of Extract: 5gm of Kukkilaathi chooranam is weighed accurately and placed in a 250ml clean beaker and added with 50ml of distilled water. Then it is boiled well for about 10 minutes. Then it is cooled and filtered in a 100ml volumetric flask and made up to 100ml with distilled water.

S.No	EXPERIMENT	OBSERVATION	INFERENCE
I. TEST FOR ACID RADICALS			
1.	**Test For Sulphate:** a.2ml of the above prepared extract is taken in a test tube to this added 2ml of 4% dil. ammonium oxalate solution	No Cloudy appearance present	Absence of Sulphate
2.	**Test For Chloride:** 2ml of the above prepared extracts is added with 2ml of dil-HCl is added until the effervescence ceases off.	No cloudy appearance present	Absence of Chloride
3.	**Test For Phosphate:** 2ml of the extract is treated with 2ml of dil.ammonium molybdate solution and 2ml of con.HNo3	No cloudy yellow appearance present	Absence of Phosphate
4.	**Test For Carbonate:** 2ml of the extract is treated with 2ml dil. magnesium sulphate solution.	No Cloudy appearance present	Absence of Carbonate
5	**Test For Nitrate:** 1gm of the substance is heated with copper turning and concentrated H2So4 and viewed the test tube vertically down.	No Brown gas evolved	Absence of Nitrate
6.	**Test For Sulphide:** 1gm of the substance is treated with 2ml of con. HCL	No Rotten Egg Smelling gas evolved	Absence of Sulphide
7.	**Test For Fluoride & Oxalate:** 2ml of extract is added with 2ml of dil. Acetic acid and 2ml dil.calcium chloride solution and heated**.**	No Cloudy appearance	Absence of Fluoride and Oxalate

8.	**Test For Nitrite:** 3drops of the extract is placed on a filter paper, on that-2 drops of dil.acetic acid and 2 drops of dil. Benzidine solution is placed.	No characteristic changes	Absenceof Nitrite
9.	**Test For Borate:** 2 Pinches (50mg) of the substance is made into paste by using dil.sulphuric acid and alcohol (95%) and introduced into the blue flame.	Bluish green colour flame did not appear.	Absence of Borate
II. TEST FOR BASIC RADICALS			
1.	**Test For Lead:** 2ml of the extract is added with 2ml of dil.potassium iodine solution.	No Yellow Precipitate is obtained.	Absence of Lead
2.	**Test For Copper:** **a.** One pinch(50mg) of substance is made into paste with con. HClin a watch glass and introduced into the non-luminuous part of the flame.	No Blue colour flame No Blue colour precipitate formed.	Absence of Copper
3.	**Test For Aluminium:** To the 2ml of extract dil.sodium hydroxide is added in 5 drops to excess.	No characteristic changes	Absence of Aluminium
4.	**Test For Iron:** a.To the 2ml of extract add 2ml of dil.ammonium solution b.To the 2ml of extract 2ml thiocyanate solution and 2ml of con HNo3 is added	Red colour appeared	**Presence Of Iron**
5.	**Test For Zinc:** To 2m1 of the extract sodium hydroxide solution is added in drops to excess.	White precipitate is not Formed	Absence of Zinc.

6.	**Test For Calcium:** 2ml of the extract is added with 2ml of 4% dil.ammonium oxalate solution	No Cloudy appearance and white precipitate was obtained.	Absence of Calcium
7.	**Test For Magnesium:** To 2ml of extract dil.sodium hydroxide solution is added in drops to excess.	No White precipitate was obtained	Absence of Magnesium
8.	**Test For Ammonium:** To 2ml of extract 1 ml of Nessler's reagent and excess of dil.sodium hydroxide solution are added.	No Brown colour appeared	Absence of Ammonium
9.	**Test For Potassium:** A pinch (25mg) of substance is treated of with 2ml of dil.sodium nitrite solution and then treated with 2ml of dil.cobalt nitrate in 30% dil.glacial acetic acid.	No Yellowish precipitate was obtained.	Absence of Potassium
10.	**Test For Sodium**: 2 pinches (50mg) of the substance is made into paste by using HCl and introduced into the blue flame of Bunsen burner.	No Yellow coloured flame appeared	Absence of Sodium
11.	**Test For Mercury**: 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No yellow precipitate was obtained.	Absence of Mercury
12.	**Test For Arsenic:** 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No brownish red precipitate was obtained.	Absence of Arsenic
III. MISCELLANEOUS			
1.	**Test For Starch:** 2ml of extract is treated with weak dil.Iodine solution	No Blue colour developed	Absence of Starch

2.	**Test For Reducing Sugar:** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boil it for 2 minutes. The colour changes are noted.	Brick red colour developed	Absence of Reducing sugar.
3.	**Test For The Alkaloids**: a) 2ml of the extract is treated with 2ml of dil.potassium lodide solution. b) 2ml of the extract is treated with 2ml of dil.picric acid. c) 2ml of the extract is treated with 2ml of dil.phosphotungstic acid.	Red colour developed Yellow colour developed White precipitate developed	**Presence of Alkaloid**
4.	**Test For Tannic Acid:** 2ml of extract is treated with 2ml of dil.ferric chloride solution	No black precipitate was obtained	Absence of Tannic acid
5.	**Test For Unsaturated Compound:** To the 2ml of extract 2ml of dil.Potassium permanganate solution is added.	Potassium permanganate is not decolourised	Absence of unsaturated compound
6.	**Test For Amino Acid:** 2 drops of the extract is placed on a filter paper and dried well. 20ml of Biurette reagent is added**.**	No Violet colour developed	Absence of Amino acids

7.	**Test For Type Of Compound:** 2ml of the extract is treated with 2 ml of dil.ferric chloride solution.	No Green colour developed	Absence of oxy quinole epinephrine and pyro catechol.
		No Red colour developed	Anti pyrine, Aliphatic amino acids and Meconic acid are absent.
		No Violet colour developed	Apomorphine, Salicylate and Resorcinol are absent.
		No blue colour developed	Morphine, Phenol cresol and hydro quinone are absent

RESULT:

The bio-chemical analysis of Kukkilaathi chooranam had shown the presence of Silicate, Iron, and Alkaloids.

DISCUSSION

Varatchi Karappan (Eczema) is one of the commonly encountered skin diseases in day-to-day dermatological practice. Eczema is uncomfortable, itchy with inflamed, cracked and serous discharging lesions. Eczema occurs when skin is more sensitive to certain substances than normal. The appearance, severity, symptoms and triggers of eczema vary between individuals. It is not a contagious disease. Eczema is generally not a serious condition, but there is a potential for complications, such as a secondary bacterial or fungal infection of the eczema rash. Early diagnosis and treatment can reduce the risk for complications. Remissions and relapse of this disease is quite common and there is no specific treatment available in other systems of medicine. The psychological impacts are feelings of self-consciousness, frustration and shame, often leading to severe mental depression. However encouraging results are obtained in our Siddha system. With this background the disease Varatchi Karappan was chosen for the dissertation work.

For this dissertation study, 40 patients were selected and 20 patients were admitted in the IP department of Sirappu Maruthuvam, in Ayothidoss Pandithar Hospital - National Institute of Siddha, Tambaram Sanatorium, Chennai - 47 and 20 patients were treated in the Outpatient department of Sirappu Maruthuvam.

In Siddha system, before starting the treatment it is necessary to bring the vitiation of Uyirthathu to equilibrium. By giving purgation we can normalize the deranged Vaatham.

In this study, purgation with Agathiyar Kuzhambu – 130mg with Sangangkuppi juice at early morning was given for balancing the deranged Uyirthathu a day before treatment for all the patients.

The trial drugs Kukkilaathi chooranam (Internal) and Karappan mel poosu thylam (External**)** were given for 48 days. Out-Patients were asked to visit the hospital once in 7 days for 48 days after that they were asked to visit once in 5 days for the next 2 months. For Out-Patients the drugs were given for 48 days and the clinical assessment was done on 0^{th} day, 7^{th} day, 14^{th} day, 21^{th} day, 29^{th} day ,36^{st} day, 43^{rd} day and 49^{th} day.

For In-Patients the drugs were given for 48 days and the clinical assessment was done daily. 10 In-Patients were given Yogam treatment along with the trial drugs. The results were compared at the end of the study. For In-Patients, who are not in a situation to stay in the hospital for a long time, were advised to attend the Out-Patient Department of Sirappu Maruthuvam for further follow- up for two months.

Patients were advised to take the medicines regularly and apply the external medicine twice a day. During treatment, the patients were advised to follow Pathiyam (Dietary regimen). Since most of the patients were severely affected by this disease, they were advised to avoid Salt, Tamarind, Brinjal, Dryfish, fish, chicken, Bitter gourd, Sesban greens, egg, maize during treatment. It was ensured that the diet restrictions imposed were followed properly by the patients.

After the treatment, the patients were advised to visit the Out-Patient Department of Sirappu Maruthuvam for another 2 months for follow-up.

Based on various criteria, the data were collected and tabulated. The criteria were family history, sex predominance, age distribution, dietary habits and incidence of the disease with reference to thinai, seasonal variation, clinical manifestations and assessment of the improvement in the prognosis of the disease with the trial drug.

Among 40 cases recruited to this study, 1 case had a strong family history. Recent studies regarding eczema also emphasize on this concept that eczema has a genetic predisposition.

40 patients of both genders were recruited for this study. Among the 40 cases 22 (55%) were males and 18 (45%) were females. Generally Eczema affects both the sexes, but in this study shows more number of cases were reported in Males.

3 (7.5%) patients were in the age group between 20 and 30 years, 7 (17.5%) patients were between 31 and 40 years, 14 (35%) patients were between 41 and 50 years, 16 (40%) patients were between 51 and 60 years. Karappan affects people of all the age groups. In this study most of the cases were reported in the age group 51 to 60 years.

Highest number of patients (55.00%) was admitted during Kaar Kaalam.

38 (95%) patients were non vegetarians and only 2 (5%) were vegetarians. According to Siddha literature, non- vegetarian foods are one of the precipitating factors for skin diseases. This present study also emphasizes the same.

In this present study, considerable number of patients was reported from Neithal thinai. In Siddha literature, it is mentioned that kabam is predominant in Neithal thinai. As vitiated kabam is responsible for eczema, majority of patients from Neithal thinai are affected.

Viyanan and Samanan were affected in all the cases (100%). Devathathan was affected in 20% of the cases, Abaanan in 15% of the cases and Kirukaran in 10% of cases.

Praasakam were affected in all the 40 (100 %) patients. Praasakam is responsible for the complexion of the skin. Hence the defect in Praasakam may lead to the causative factor for this disease.

Kilethakam was affected in 4(10%) patients, Santhikam was affected in 7(17.5%) patients, and Anarpitham was affected in 4 (10%) patients.

Saaram and Senneer were affected in all the 40 (100%) cases. Saaram and Senneer are responsible for the color of the skin. Niram and Sparisam were affected in all the 40 (100%) cases. In Karappan, the color of skin changes into black along with itching, oozing, scaling and crusting. Among 40 cases, all cases had itching and oozing, hyperpigmentation, 21 patients had scaling, 12 patients had vesicles, 8 patients had papules, 5 patients had erythema, 5 patients had hypopigmentation and 24 patients had lichenification. Itching, oozing and scaling shows good reduction whereas hyperpigmentation shows only moderate reduction.

Laboratory investigations were done for all the cases before and after treatment. There were no significant variations in hepatic, renal and other parameters before and after treatment. Among the 20 IPD patients 10 patients were taught. Yogam therapy along with the trial medicines and the remaining 10 IPD patients received only internal and external medicine without any Yogam therapy. The patients who received Yogam therapy along with trial medicines responded well since the Yogam therapy is mainly aimed to reduce the stress in the affected individual which plays a vital role in rapid prognosis and relapse of this disease.

The outcome of this study also showed encouraging results. Moderate improvement (Grade II) in 25 patients (62.5%), mild improvement (Grade III) in 12 cases (30%). No improvement (Grade IV) in only 3 cases (7.5%). The symptoms of itching, scaling, oozing and hyperpigmentation before and after treatment were considered for arriving clinical symptom score by using paired T test. There was a significant difference in clinical symptom score before and after treatment ($P<0.001$).

In this study, no adverse events were clinically observed during the course of the treatment. At the time of discharge all the patients were advised to attend outpatient department of Sirappu Maruthuvam of National Institute of Siddha for follow-up treatment.

SUMMARY

The disease Varatchi Karappan was taken for the clinical study with Kukkilaathi chooranam as internal medicine and Karappan melpoosu thylam as external application. For the clinical study, 40 cases were selected based on Inclusion and Exclusion criteria.

The study is conducted after the drug being screened by the Screening committee of National Institute of Siddha and the trial was also approved by the Institutional Ethical Committee (IEC). Animal studies are carried out after obtaining proper permission from the Institutional Animal Ethical Committee (IAEC). Hence the study is safely executed on human volunteer patients and there was no adverse drug reactions noted during the study period.

Out of the 40 cases, 20 cases were treated in IPD and remaining 20 cases were treated in OPD of Ayothidoss Pandithar Hospital of National Institute of Siddha, Chennai-47. The detailed study on Varatchi Karappan with reference to its Aetiology, Pathogenesis, Investigations, Clinical features, Diagnosis and Treatment with trial drugs was done. Separate proforma was maintained for each and every patient. Daily progress chart was also maintained to monitor the clinical signs and symptoms of the disease.

Among the 20 IPD patients 10 patients were taught Yogam therapy along with the above said internal and external medicines and the remaining 10 IPD patients received only internal and external medicine without any Yogam therapy being taught to them. The patients who received Yogam therapy along with their medications responded well since the Yogam therapy is mainly aimed to reduce the stress in the affected individual which plays a vital role in better prognosis and relapse of this disease.

Among the 40 cases treated, 62.5% cases had shown Moderate improvement (GRADE II), 30% cases had shown Mild improvement(GRADE III) and 7.5% cases without any improvement.Observation made during the clinical study showed that the trial drug was clinically effective.

CONCLUSION

Varatchi Karappan is one of the chronic skin diseases, which threatens the mankind. In this clinical study "Kukkilaathi chooranam" and "Karappan melpoosu thylam" were taken as Internal & External drug respectively. The above medicines were selected from the Siddha literatures "Sarabaendhira Vaidhya Muraigal Virana karappan roga sikichai (Pg.No.264)" and "Vaidhya sinthamani- Sikicha Rathna Deepam-Page. no.205" respectively.

The clinical study confirms the efficacy of the trial drugs by reducing the clinical signs and symptoms like Itching, Oozing and Scaling. Clinical study results found to be Moderate in 62.5% cases, Mild in 30% cases and no improvement in 7.5% cases.

The cost of the trial medicines is low. These drugs are easily available and the dosage is also convenient.

The Clinical trial conducted in selected patients was satisfactory and encouraging. However a study with large number of patients is required to find out the ideal dose response.

Yogam treatment along with internal and external medication is found to be more effective in sleeplessness. The subjects affected by Eczema are most commonly affected by stress and social stigma. When these affected communities get a good improvement with this new drug and Yogam, it would be a great outcome for the people.

In the present study there was no adverse effect were reported and in the animal studies also shown no abnormality. Hence the drugs are considered as safe. However further work with large number of patients should be carried out towards finding the ideal dose response.

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NATIONAL INSTITUTE OF SIDDHA
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Name: Dr. K. KAVIARASI. REG NO: 32102201.
Title: PRECLINICAL AND CLINICAL STUDY ON "KUKKILAATHI CHOORANAM" (INTERNAL) AND "KARAPPAN MEL POOSU THYLAM" (EXTERNAL) FOR THE TREATMENT OF "VARATCHI KARAPPAN" (ECZEMA).
No. NIS/IEC/2011/3/17 - 24/12/2011

DECSION

Opinion of the Institutional Ethics Committee – Please Check one
✓ Approval _____ Modifications required prior to approval (Please specify one space below) _____ Disapproval K. Manickavasakam (Dr. K. MANICKAVASAKAM) Member secretary Date of review: _____ Signed: _____ (Please print name) Dr.V.SUBRAMANIAN chair person (Please delee as appropriate, Chairperson, Secretary)
Modifications needed Modification given to candidate
The research proponent is hereby informed that the Institutional Ethics Committee will require the following: 1. All adverse drug reactions (ADRs) that are both serious and unexpected to be reported promptly to the IEC within 7 working days 2. The progress report to be submitted to the IEC atleast annually 3. Upon completion of the study, a final study status report needs to submitted to the IEC

IAEC PROTOCOL NO : 1248/ac/09/CPCSEA/4-17/2011.

20/12/2011

CERTIFICATE

This is certify that the project title. PRECLINICAL AND CLINICAL STUDY ON "KUKKILAATHI CHOORANAM" (INTERNAL MEDICINE) AND "KARAPPAN MEL PODIU THYLAM" (EXTERNAL MEDICINE) FOR THE TREATMENT OF "VARATCHI KARAPPAN" (ECZEMA).

has been approved by the IAEC.

Prof. Dr. K. Manickavasakam — **Name of Chairman/Member Secretary IAEC:**

Dr. B. Jayachandran Dare — **Name of CPCSEA nominee:**

Signature with date

Chairman/Member Secretary of IAEC:

CPCSEA nominee:

(Kindly make sure that minutes of the meeting duly signed by all the participants are maintained by Office)

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

CERTIFICATE OF BOTANICAL AUTHENTICITY

Certified that the following plant drugs used in the Siddha formulation **Kukkilaathi Chooranam** (Internal) and **Karappan Mel Poosu Thylam** (External) for the treatment of **Varatchi Karappan** (Eczema) taken up for Post Graduation Dissertation studies by **Dr.K.Kaviarasi**, M.D.(S), II year, Department of Sirappu Maruthuvam, 2011-12, are identified and authenticated through Visual inspection / Experience, Education & Training/ Organoleptic characters/ Morphology / Micromorphology / Taxonomical/ Microscopical methods.

Zingiber officinale Rosc. (Zingiberaceae), Rhizome
Piper nigrum Linn. (Piperaceae), Fruit
Piper longum Linn. (Piperaceae), Fruit
Nigella sativa Linn. (Ranunculaceae), Seed
Vateria indica Linn. (Dipterocarpaceae), Oleoresin
Enicostemma littorale Blume (Gentianaceae), Whole plant
Tamarindus indica Linn. (Caesalpiniaceae), Leaves
Cassia auriculata Linn. (Caesalpiniaceae), Root bark
Acorus calamus Linn. (Araceae), Rhizome
Psoralea corylifolia Linn. (Fabaceae), Seed
Aristolochia bracteata Retz. (Aristolochiaceae), Whole plant
Sesamum indicum Linn. (Pedaliaceae), Seed oil

Certificate No: NIS/MB/48/2012

Date: 12-6-12

12/6/12
Authorized Signatory
Dr. D. ARAVIND, M.D.(s),M.Sc.,
Assistant Professor
Department of Medicinal Botany
National Institute of Siddha
Chennai - 600 047, INDIA

The Tamil Nadu Dr. M.G.R. Medical University

69, Anna Salai, Guindy, Chennai-600 032

This Certificate is awarded to Dr K. KAVIARASI

for participating as a ~~Resource~~ ~~Person~~ / Delegate in the VI Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post-Graduates & Researchers

organized by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University

from 12th September 2011 to 16th September 2011

Dr. MAYILVAHANAN NATARAJAN
M.S.Orth. M.Ch.Orth. (L'pool) Ph.D. D.Sc. F.R.C.S. D.Sc. (Hon)^3
VICE CHANCELLOR

Dr. SUDHA SESHAYYAN, M.S.
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READER, DEPT. OF SIDDHA

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL

CHENNAI – 600 047.

POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

PRE -CLINICAL AND CLINICAL STUDY ON "KUKKILAATHI CHOORANAM" (INTERNAL) AND KARAPPAN MEL POOSU THYLAM (EXTERNAL) FOR THE TREATMENT OF "VARATCHI KARAPPAN"(ECZEMA).

FORM I - SCREENING & SELECTION PROFORMA

1. OP /IP NO: ----------

2. NAME: …….

3. AGE: …… **4.GENDER: …….....**

5. OCCUPATION: …….. **6.INCOME: ……**

7. ADDRESS: ……

……

……

8. CONTACT NO: ……

INCLUSION CRITERIA

- Age: 20 – 60 years Yes / No
- Sex: Both male and female M / F
- Itching Yes / No
- Oozing Yes / No
- Erythema Yes / No
- Papules Yes / No
- Vesicles Yes / No
- Scaling Yes / No
- Hyperpigmentation Yes / No

- Willing to give specimen of blood for investigation when required Yes / No
- Willing for admission and study in IPD for 48 days or willing to attend OPD Yes / No

EXCLUSION CRITERIA

- Hypertension Yes / No
- Diabetes mellitus Yes / No
- Cardiac disease Yes / No
- Pregnancy and lactation Yes / No
- Evidence of any skin disease other than eczema Yes / No
- Varicose eczema Yes / No
- **ADMITTED TO TRIAL**

YES ☐ NO ☐

If yes **OPD** ☐ **IPD** ☐

If Yes Serial NO: ☐☐

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

NATIONAL INSTITUTE OF SIDDHA - AYOTHIDOSS PANDITHAR HOSPITAL

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FORM II - HISTORY TAKING PROFORMA

1. SERIAL NO: …… 2.OP / IP NO: .....

3. NAME: …… 4. AGE: …… 5.GENDER: .....

6. COMPLAINTS & DURATION:

7. HABITS OF

SMOKING 1. Yes ☐ 2.No ☐ If yes, specify duration ---------- yrs

TOBACCO 1. Yes ☐ 2.No ☐ If yes, specify duration ---------- yrs

ALCOHOL 1. Yes ☐ 2.No ☐ If yes, specify duration ---------- yrs

8. DRUG HISTORY:

9. FAMILY HISTORY: Whether this problem runs in family 1. Yes ☐ 2.No ☐

If yes, mention the relationship of affected person(s)

1._____ 2._____

10.DIETARY HABIT: 1.Vegetarian ☐ 2.Non-vegetarian ☐

11. MENSTRUAL & OBSTETRIC HISTORY:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA - AYOTHIDOSS PANDITHAR HOSPITAL

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FORM III -CLINICAL ASSESSMENT ON ENROLLMENT

1.OP NO: ---------- 2.IP NO: ---------- 3.BED NO: ------ 4.SI NO: ------

5. NAME: ---------- 6. AGE: --------- 7.GENDER: ------

8. DATE OF INITIAL ASSESSMENT: ----------

9. GENERAL EXAMINATION:

1. Body weight [Kg] :
2. Height [cm] :
3. Body Temperature [F] :
4. Blood Pressure (mmHg) :
5. Pulse Rate /min. :
6. Heart Rate / min. :
7. Respiratory Rate /min. :

		Yes	**No**
8. Pallor	:	☐	☐
9. Jaundice	:	☐	☐
10. Clubbing	:	☐	☐
11. Cyanosis	:	☐	☐
12. Pedal Oedema	:	☐	☐
13. Lymphadenopathy	:	☐	☐
14. Jugular venous pulsation	:	☐	☐

1. SYSTEMIC EXAMINATION:

Nervous system ---------- Cardiovascular system----------

Uro-genital system ---------- Respiratory system ----------

Endocrine system ---------- Gastro intestinal system ----------

11. SIDDHA SYSTEM OF EXAMINATION

1. THEGI (BODY CONSTITUTION):

1. Vatha udal ☐
2. Pitha udal ☐
3. Kaba udal ☐
4. Thontha udal ☐ ……

2. NILAM (LAND WHERE THE PATIENT LIVED MOST):

1. Kurinji (Hilly terrain) ☐
2. Mullai (Forest range) ☐
3. Marutham (Plains) ☐
4. Neithal (Coastal belt) ☐
5. Paalai (Arid regions) ☐

3. KAALAM:

1. Kaar kaalam (Aavani-Purattasi) ☐ 2. Koothir kaalam (Ippasi-Kaarthigai) ☐

3. Munpani kaalam (Maargazhi-Thai) ☐ 4. Pinpani kaalam (Maasi-Panguni) ☐

5. Ilavenil kaalam (Chithirai-Vaigasi) ☐ 6. Muthuvenil kaalam (Aani-Aadi) ☐

4. GUNAM: 1. Sathuvam ☐ 2. Rasatham ☐ 3. Thamasam ☐

5. PORIPULANGAL (SENSORY ORGANS):

	Before Treatment	**After Treatment**
Mei	Normal /Affected	Normal /Affected
Vaai	Normal /Affected	Normal /Affected
Kann	Normal /Affected	Normal /Affected
Mookku	Normal /Affected	Normal /Affected
Sevi	Normal /Affected	Normal /Affected

6. KANMENDRIYAM (MOTOR ORGANS)

	Before treatment	**After treatment**
Kai	Normal /Affected	Normal /Affected
Kaal	Normal /Affected	Normal /Affected
Vaai	Normal /Affected	Normal /Affected
Eruvai	Normal /Affected	Normal /Affected
Karuvai	Normal /Affected	Normal /Affected

7. KOSANGAL (SHEATH):

	Before Treatment	**After Treatment**
Annamayakosam	Normal /Affected	Normal /Affected
Pranamayakosam	Normal /Affected	Normal /Affected
Manomayakosam	Normal /Affected	Normal /Affected
Vignanamayakosam	Normal /Affected	Normal /Affected
Ananthamayakosam	Normal /Affected	Normal /Affected

8. UYIR THAATHUKKAL: **[THREE HUMORS] (VALI, AZHAL,IYAM)**

A) VALI

	0^{th} day	8^{th} day	15^{th} day	22^{nd} day	29^{th} day	36^{th} day	43^{rd} day	49^{th} day
Praanan								
Abaanan								
Samaanan								
Udhaanan								
Viyaanan								
Naagan								
Koorman								
Kirukaran								
Devathathan								
Dhananjeyan								

B) AZHAL

	0^{th} day	8^{th} day	15^{th} day	22^{nd} day	29^{th} day	36^{th} day	43^{rd} day	49^{th} day
Analakam								
Ranjakam								
Saathakam								
Praasakam								
Aalosakam								

C) IYAM

	0th day	8th day	15th day	22nd day	29th day	36th day	43rd day	49th day
Avalambagam								
Kilethagam								
Bothagam								
Tharpagam								
Santhigam								

9.SEVEN UDAL DHATHUS: (7 SOMATIC COMPONENTS)

	Before Treatment	**After Treatment**
Saaram	Normal /Affected	Normal /Affected
Senneer	Normal /Affected	Normal /Affected
Oon	Normal /Affected	Normal /Affected
Kozhuppu	Normal /Affected	Normal /Affected
Enbu	Normal /Affected	Normal /Affected
Moolai	Normal /Affected	Normal /Affected
Sukkilam/Suronitham	Normal /Affected	Normal /Affected

SIDDHA SYSTEM OF EXAMINATION

1. ENVAGAI THERVU: [EIGHT TYPES OF EXAMINATION]

I. NAADI: [PULSE PERCEPTION]

Naadi Nadai	0th day	8th Day	15th Day	22th day	29th day	36th day	43th Day	49th day

II .SPARISAM:

Sparisam	0^{th} Day	8^{th} Day	15^{th} Day	22^{th} day	29^{th} day	36^{th} day	43^{th} Day	49^{th} day

III. NAA:[TONGUE]

Naa	0^{th} Day	8^{th} Day	15^{th} Day	22^{th} day	29^{th} day	36^{th} day	43^{th} Day	49^{th} day

IV.NIRAM: [COMPLEXION]

Niram	0^{th} Day	8^{th} Day	15^{th} Day	22^{th} day	29^{th} day	36^{th} day	43^{th} Day	49^{th} day

V.MOZHI: [VOICE]

Mozhi	0^{th} Day	8^{th} day	15^{th} day	22^{th} day	29^{th} day	36^{th} day	43^{th} day	49^{th} day
High Pitched								
Medium Pitched								
Low Pitched								

VI.VIZHI: [EYES]

Vizhi	0^{th} Day	8^{th} day	15^{th} day	22^{th} day	29^{th} day	36^{th} day	43^{th} Day	49^{th} day

VII. MALAM: [BOWEL HABITS / STOOLS]

Malam	Before treatment	After treatment
Niram		
Irugal		
Ilagal		
Others		

VIII. URINE EXAMINATION

NEERKKURI	Before Treatment	After Treatment
Niram		
Manam		
Edai		
Nurai		
Enjal		

NEIKKURI	Before Treatment	After Treatment
Serpentine pattern		
Annular/Ringed pattern		
Pearl beaded pattern		
Mixed pattern		
Other pattern		

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

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FORM IV - CLINICAL ASSESSMENT DURING & AFTER TRIAL

1. OP/ IP NO: …… 2. SL. NO: …… 3.NAME: ……..

4. AGE: …… 5. GENDER: ….. 6. DATE OF RECRUITMENT: ……

	0day	**7th day**	**14th day**	**21th day**
Site				
Itching				
Oozing				
Erythema				
Oedema				
Papules				
Vesicles				
Scaling				
Hyper pigmentation				
Lichenification				

	29th day	**36th day**	**43th day**	**49th day**
Site				
Itching				
Oozing				
Erythema				
Oedema				
Papules				
Vesicles				
Scaling				
Hyper pigmentation				
Lichenification				

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

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.FORM-V - LABORATORY INVESTIGATIONS

BLOOD INVESTIGATIONS			NORMAL VALUES	BEFORE TMT (WITH DATE)	AFTER TMT (WITH DATE)
HB(gm/dl)			M:13-18 W:11-16		
T.WBC (cells/cu.mm)			4000-11000		
DIFFERENTIAL COUNT (%)	Polymorphs		40-75		
	Lymphocytes		20-40		
	Monocytes		2-10		
	Eosinophils		1-6		
	Basophils		0-1		
T.RBC(million cells/cu.mm)			M:4.0-5.5 W:3.5-4.5		
ESR(mm/hour)		½ hr.	M:6-12 W:7-18		
		1 hr.			
Blood glucose (mg/dl)	Fasting		70-110		
	PP		80-140		
	Random		80-120		
Lipid profile (mg/dl)	HDL		30-60		
	LDL		Upto 130		
	VLDL		40		
	Total Cholesterol		150-200		

	TGL	**Upto 160**		
RFT (mg/dl)	**Blood urea**	**16-50**		
	Serum creatinine	**0.6-1.2**		
	Uric acid	**2-7**		
LFT (mg/dl)	**Total bilirubin**	**0.2-1.2**		
	Direct bilirubin	**0.1-1.2**		
	Indirect bilirubin	**0.2-0.7**		
	SGOT	**0-40**		
	SGPT	**0-35**		
	Alkaline phosphatase	**80-290**		

URINE INVESTIGATION	BEFORE TMT(WITH DATE)	AFTER TMT (WITH DATE)
Neer kuri		
Niram		
Edai		
Manam		
Nurai		
Enjal		
Nei kuri		
Albumin		
Fasting sugar		
PP sugar		
Deposits		

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

FORM VIII – PATIENT INFORMATION SHEET

Name of Principal Investigator:……

Name of the institute: National Institute of Siddha,
Tambaram Sanatorium,
Chennai-47.

INFORMATION SHEET FOR PATIENTS PARTICIPATING IN THE OPEN CLINICAL TRIAL.

I, Dr. K. Kaviarasi studying as PG Scholar at National Institute of Siddha, Tambaram Sanatorium is doing a trial on Varatchi karappan (Eczema). Eczema is a chronic skin disease, occurring throughout the world. In this regard, I am in a need to ask you few questions. I will maintain confidentiality of your comments and data obtained . There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study. Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study.

You can choose not to take part. You can choose not to answer a specific question. There is no specific benefit for you if you take part in the study. However, taking part in the study may be of benefit to the community, as it may help us to understand the problem of defaulters and potential solutions. If you agree to be a participant in this study, you will be included in the study primarily by signing the consent form and then you will be given the internal medicine Kukkilaathi chooranam(Internal medicine-1.5gm , BD with water for 48 days) and Karappan mel poosu thylam (External medicine). If you wish to stay in the In Patient ward Yogam Treatment will be provided to you assuring that you will not be definitely hurt in any course of treatment.

The information I am collecting in this study will remain between you and the principal investigator (myself). I will ask you few questions through a questionnaire.

If you wish to find out more about this study before taking part, you can ask me all the questions you want or contact Dr.K.Kaviarasi, PG Scholar cum principal investigator of this study, [contact no -9677360596] attached to National Institute of Siddha,Chennai-47. You can also contact the Member-secretary of Ethics committee, National Institute of Siddha, Chennai 600047, Tel No : 91-44-22380789, for rights and participation in the study.

FORM VI - ஒப்புதல் படிவம்

ஆய்வாளரால் சான்றளிக்கப்பட்டது

நான் கரப்பான் என்னும் நோயின் ஆய்வை குறித்த அனைத்து விபரங்களையும் நோயாளிக்குப் புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்.

தேதி: **கையொப்பம்:**

இடம்: **பெயர்:**

நோயாளியின் ஒப்புதல்

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும், மருந்தின் தன்மை மற்றும் மருத்துவ வழிமுறை பற்றியும், தொடர்ந்து எனது உடல் இயக்கத்தைக் கண்காணிக்கவும், அதனை பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின் போது, எப்பொழுது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்துக் கொள்ளும் உரிமையைத் தெரிந்திருக்கின்றேன்.

நான் என்னுடைய சுதந்திரமாகத் தேர்வு செய்யும் உரிமையைக் கொண்டு கரப்பான் நோய்க்கான குக்கிலாதி சூரணம் (உள் மருந்து) மற்றும் கரப்பான் மேல் பூசு தைலம் (வெளி மருந்து) மருந்தின் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

தேதி: **கையொப்பம்:**

இடம்: **பெயர்:**

தேதி: **சாட்சிக்காரர் கையொப்பம்:**

இடம்: **பெயர்:**

உறவுமுறை:

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FORM VI-CONSENT FORM

"I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to participate as a participant in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care".

"I have received a copy of the information sheet/consent form".

Date:

Signature of the participant:

In case of illiterate participant:

"I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely."

Date:

Signature of a witness

(Selected by the participant bearing no connection with the survey team)

Left thumb Impression of the Participant

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FORM VII - WITHDRAWAL FORM

1. SERIAL NO OF THE CASE: ……

2. OP / IP NO: .....

3. NAME: …… 4.AGE: …… 5.GENDER: .....

6. DATE OF TRIAL COMMENCEMENT: ……...

7. DATE OF WITHDRAWAL FROM TRIAL: ……..

8. REASONS FOR WITHDRAWAL:

Long absence at reporting:	Yes/ No
Irregular treatment:	Yes/ No
Shift of locality:	Yes/No
Increase in severity of symptoms:	Yes/No
Development of severe adverse drug reactions:	Yes/No
Development of adverse event :	Yes/No

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

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DRUG COMPLIANCE FORM

SERIAL NO:

OP/IP NO:

NAME:

AGE/ GENDER:

DRUG NAME: Kukkilaathi chooranam

OPD:

On 1st day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

On 8th day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

On 15th day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

On 22nd day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

On 29th day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

On 36th day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

On 43rd day-Date: Drugs issued: 21(Gms) Drugs returned: (Gms)

IPD:

Day	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				Day25			
Day2				Day26			
Day3				Day27			
Day4				Day28			

Day5				Day29			
Day6				Day30			
Day7				Day31			
Day8				Day32			
Day9				Day33			
Day10				Day34			
Day11				Day35			
Day12				Day36			
Day13				Day37			
Day14				Day38			
Day15				Day39			
Day16				Day40			
Day17				Day41			
Day18				Day42			
Day19				Day43			
Day20				Day44			
Day21				Day45			
Day22				Day46			
Day23				Day47			
Day24				Day48			

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

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YOGAM COMPLIANCE FORM

[EFFECT OF YOGAM ALONG WITH TRIAL DRUG]

SERIAL NO:

MEDITATIVE POSTURES:

Tamarai asanam (Padhmasanam) ,

Sukhasanam

Mandi uruthi asanam (vajrasanam),

Savaasanam,

Poorana shanthi asanam,

NAME OF PRANAYAMAM:

Omkhara Pranayamam

Nithirai Pranayamam

Day	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				Day25			
Day2				Day26			
Day3				Day27			
Day4				Day28			
Day5				Day29			
Day6				Day30			
Day7				Day31			
Day8				Day32			

Day9				Day33			
Day10				Day34			
Day11				Day35			
Day12				Day36			
Day13				Day37			
Day14				Day38			
Day15				Day39			
Day16				Day40			
Day17				Day41			
Day18				Day42			
Day19				Day43			
Day20				Day44			
Day21				Day45			
Day22				Day46			
Day23				Day47			
Day24				Day48			

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

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FORM IV D - DIETARY ADVICE FORM

சேர்க்கக் கூடிய உணவுகள்:

முருங்கைப்பிஞ்சு, (Unripe drumstick),

அவரைப்பிஞ்சு, (Unripe Dolichos bean),

கரிசாலை (trailing eclipta),

பொன்னாங்கண்ணி (Sessile plant),

மணத்தக்காளி (black nightshade),

முருங்கைக்கீரை (Leaves of Drumstick),

பசலைக் கீரை(Indian Spinach),

சிறுகீரை(Tropical Amaranth),

கறிவேப்பிலை (Curry leaf),

கொத்தமல்லி (Coriander),

புதினா (The marsh mint),

பால் (Milk),

பாற்பொருட்கள்(Milk products).

தவிர்க்க வேண்டியவைகள்:

கோழிக்கறி [Chicken],

மீன்[Fish],

நண்டு [Crab],

கருவாடு [Dry fish],

முட்டை [Egg],

கொய்யா [Guava],

தடியன்காய் [Pumpkin],

கம்பு [Pear millet],

வரகு [Kodo millet],

தினை [Indian millet],

சாமை [Little millet],

புளிப்பு பொருள்கள் [Sour],

எலுமிச்சை [Lemon],

தக்காளி[Tomato],

நல்லெண்ணெய் [Gingely oil],

ஊறுகாய் [Pickle],

புகையிலை [Tobacco],

மது அருந்துதல் [Alcohol].

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ADVERSE REACTION FORM

SERIAL NO:

OP/IP NO:

NAME: **AGE:** **GENDER:**

DATE OF TRIAL COMMENCEMENT:

DATE OF OCCURRENCE OF ADVERSE REACTION:

DESCRIPTION OF ADVERSE REACTION:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

தகவல் படிவம்

கரப்பான் (தோல் நோய்) நோய்க்கான சித்த மருந்துகளின் (குக்கிலாதி சூரணம் மற்றும் கரப்பான் மேல் பூசு தைலம்) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்க்கானத் தகவல் படிவம்.

முதன்மை ஆராய்ச்சியாளர் பெயர் : மருத்துவர் .க. கவியரசி.

நிறுவனத்தின் பெயர் :தேசிய சித்த மருத்துவ நிறுவனம்,
தாம்பரம் சானட்டோரியம்,
சென்னை- 47.

தேசிய சித்த மருத்துவ நிறுவனத்தில் பட்ட மேற்படிப்பு பயின்று வரும் நான் கரப்பான் என்னும் தோலைப் பாதிக்கும் நோயில் மருத்துவ ஆராய்ச்சியில் ஈடுபட்டுள்ளேன்.

கரப்பான் என்னும் நோயானது தோலை பாதிக்கும் நோயாகும். இந்த நோயில் தோலில் திமிர், குரு, புண், தடிப்பு உடைய படைகளை உண்டாக்கி,அவ்விடங்களில் வீக்கம்,கொப்புளங்கள் கண்டு அல்லது செதில் போன்று தோல் சுரசுரப்பாகி தோலின் இயற்கை நிறத்தை வேறுபடுத்தி, சிலவேளை வெடிப்பு, நீர் கசித ல் உண்டாகும். இது பரவக் கூடிய நோய் அல்ல. இந்த ஆராய்ச்சி சம்மந்தமாக சில கேள்விகளை கேட்கவும், தேவையான ஆய்வகப் பரிசோதனைக்குத் தங்களை உட்படுத்தவும் உள்ளேன்.

இது சம்பந்தமான தங்களது அனைத்து விவரங்களும் ரகசியமாக வைக்கப்படும் என உறுதிஅளிக்கிறேன். இதில் பயணப்படி முதலிய எந்த உதவித் தொகையும் வழங்கப்பட மாட்டாது. இந்த ஆராய்ச்சியின் போது உடலுக்கு வேறு பாதிப்பு ஏற்படும் பட்சத்தில் தேசிய சித்த மருத்துவமனையில் தக்க சிகிச்சை அளிக்கப்படும்.

இந்த ஆராய்ச்சிக்குத் தாங்கள் விருப்பத்தின் பேரில் உட்படும் பட்சத்தில் உள்மருந்தாகக் குக்கிலாதி சூரணம் 1.5கி வெந்நீரில் 2 வேளை (காலை, மாலை) உணவுக்குப் பின் 48 நாட்களுக்கு உட்கொள்ள வேண்டும். வெளி மருந்தாக கரப்பான் மேல் பூசு தைலம் 20 மிலி, 48நாட்களுக்கு நோயுள்ள இடங்களில் வெளியே தடவ வேண்டும்.வெளி நோயாளர்கள் 7 நாட்களுக்கு ஒருமுறை மருத்துவமனைக்கு வரவேண்டும். உள்நோயாளியாகத் தங்க விருப்பம் தெரிவிக்கும் பட்சத்தில் நோய்க்குத் தகுந்த பிராணாயாமம் மற்றும் யோகாசனப் பயிற்சிகள் கற்றுத் தரப்படும்.

இந்த ஆராய்ச்சியில் நோயினராகச் சேர்ந்த பிறகு உங்களுக்கு விருப்பம் இல்லையெனில் எப்போது வேண்டுமானாலும் விலகிக் கொள்ள முழு உரிமை உள்ளது. இந்த ஆராய்ச்சி சம்பந்தமாக மற்ற விபரங்களுக்கும், நோயின் தன்மை பற்றியும் முதன்மை ஆராய்ச்சியாளரான Dr.க.கவியரசி (பட்ட மேற்படிப்பாளர்- சிறப்பு மருத்துவப் பிரிவு) யை அணுகவும். கைப்பேசி எண் 9677360596.மேலும் இந்த ஆராய்ச்சிக்குத் தக்க அனுமதி [IEC]சான்று பெறப்பட்டுள்ளது.

இந்த மருந்து சிறப்பாகக் கரப்பான் நோய்க்காக (தோல் நோய்)அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில் கூறப்பட்டுள்ளது. ஏற்கனவே உபயோகத்தில் உள்ள இது போன்ற மருந்து இதுவரை நோயாளிகளிடம் எந்த வித பக்க விளைவுகளையும் ஏற்படுத்தவில்லை. இந்த மருந்து முற்றிலும் மூலிகைகளைக் கொண்டு தயாரிக்கப்பட்ட பாதுகாப்பான மருந்தாகும்.